NOT TO BE TAKEN AWAY

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INFANTILISM WITH CHRONIC INTERSTITIAL NEPHRITIS.

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WITHIN the last year or two attention has been drawn to the association of infantilism with albuminuria, polyuria, and polydipsia. In March, 1911, Dr. Morley Fletcher brought a case before the Children's Section of the Royal Society of Medicine, and at the October and November meetings of the same section Dr. G. A. Sutherland and Dr. Reginald Miller showed similar cases. In Dr. Sutherland's case albumin was absent. Opinion was expressed by some of the members that these cases were examples of diabetes insipidus with functional albuminuria. At the last annual meeting of the British Medical Association, however, Dr. Leonard Parsons showed the post-mortem material from a case which displayed similar symptoms. There was extensive fibrosis of both kidneys, which together weighed less than one ounce.

In 1900 Dr. Glover Lyon* showed before the Hunterian Society the kidneys of a boy, aged 16 years, who had appeared about ten years old. The left kidney was almost converted into fibrous strands, and the right showed marked renal fibrosis. The left

* 'Lancet,' 1901, i, p. 102.

kidney was $\frac{1}{4}$ in. thick and $\frac{3}{4}$ in. long, and the right about $\frac{3}{4}$ in. thick.

During the year 1911 I had the opportunity of seeing autopsies on two cases which presented similar symptoms. The clinical details, I regret, are not complete.

Case 1.—Herbert D—, aged $9\frac{1}{2}$ years, was very small at birth: his mother said that he was "like a little doll," and that she was "afraid of his dropping through his clothes." He was breast-fed for a year, and came on well, suffering from no digestive trouble and being able to walk alone at about ten months old. His limbs were quite straight, and he had no sweating, bronchitis, or other signs of rickets. After being weaned he was always wanting to drink, and when he was two or three years old his mother consulted a doctor to see if he had diabetes. He used to pass large quantities of urine, but on certain occasions he had "stoppage of water," and then he "used to bring up his water by the mouth." These attacks had become more frequent lately, and for the last year or two had occurred three or four times per annum. His legs had begun to bend about a year before his death. At nine years old he weighed 32 lb., and was 3 ft. 4 in. in height. He had been operated on five times for hypospadias.

Family history.—There were five other children. Two, aged respectively thirteen and seventeen, are alive and fairly well; one, aged five years, has congenital morbus cordis. One died at six years old from a burn. One died at five years, cause unknown; had been healthy previously. All these children had been a fair size at birth; one had been "rather small," but was now healthy. The father suffered from asthma. Mother healthy, no miscarriages.

When I first saw the child he was under the care of my surgical colleague, Dr. A. Garrick Wilson, for hypospadias. He was infantile in appearance, and would naturally have been taken for a child of about four years old. His skin was dry, wrinkled, and inelastic, especially over the backs of the hands. Over most of the body there was a faded yellow pallor, but the cheeks showed a pink tinge. Genu valgum of a moderate degree was present, the ribs were beaded, and there was some enlargement of the radial epiphyses. His mental calibre was about that of a child of four; he was bright and attractive, but with babyish ideas and desires. A specimen of the urine was not then obtainable as he was suffering from enuresis, but a specimen taken a week or two later was found to be free from albumin. He lived for four months after this, and died on March the 6th, 1911, in a semi-comatose condition, with

partial suppression of urine. The urine at this time contained albumin and casts.

At the autopsy the kidneys were found to be very small, together weighing just one ounce. They were rather irregular, but not granular, on the surface. The capsule stripped off fairly readily, but was adherent at a few points. There were one or two small cysts. The cortex was diminished in parts.

Microscopically the tubules were seen to be rather widely separated; the epithelium of the convoluted tubules was cubical in shape and separated from the basement membrane. These

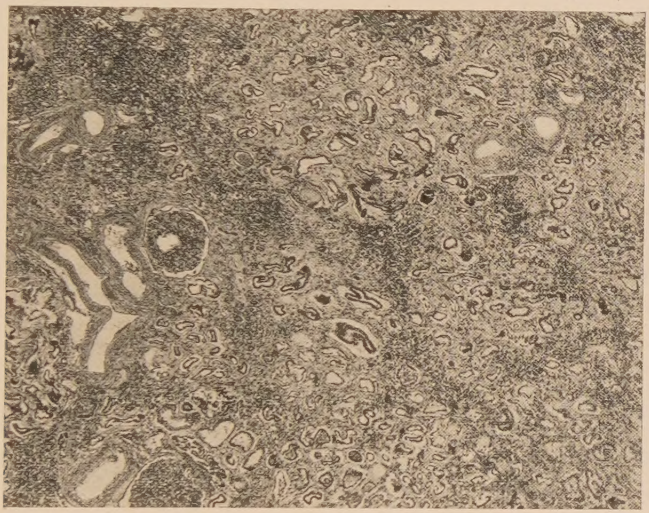

Fig. 1 (from Case 1). Showing (*a*) the tubules widely separated by interstitial tissue of a very cellular nature; (*b*) thickening of the vessel-walls; (*c*) thickening of Bowman's capsule and fibrous change in the tufts.

tubules were dilated, especially towards the surface, and some of them formed cysts. The collecting tubules showed little change. The interstitial tissue was greatly increased, and near the surface it was very markedly cellular. The glomeruli showed considerable change. Bowman's capsule was slightly thickened, and in one or two instances there was marked fibrous contraction of the tufts. The arteries were slightly thickened.

The heart showed a moderate degree of hypertrophy of the left ventricle. The liver and spleen showed no change.

Case 2.—H. W—, aged 16½ years, was born at full time, but

was very small. The mother was ailing during pregnancy, and she had much vomiting throughout. He was breast-fed for two months and then had milk and "babies' foods." He walked first at two years old. His limbs were quite straight, he had no sweating, indigestion, or bronchitis, and no illness during infancy. He remained throughout his life very small, but bright and active. He was always thirsty, and used to pass large quantities of urine. He was taken to a doctor at about thirteen years of age to see if he had drinking diabetes. His parents thought him very sharp, but although he stayed at school until sixteen years of age he only reached Standard V. He sometimes had sick headaches, but they had been less frequent of recent years. His legs began to bend two years before his death. (A photograph of him at the age of thirteen years shows no signs of bending of the limbs.)

Family history.—There were eight other children. Four are alive and well, two died in infancy, one of "consumption of the bowels" at six months, and the other with "a lump in the neck" at one year old. One died of heart disease at seventeen and one of pneumonia at twenty-one.

He was admitted into the hospital under my surgical colleague, Mr. Hadley, who has kindly given me the following notes:

Height, 4 ft. 3 in. The whole body and limbs were small, but not disproportioned to the height; face wizened; high-pitched small voice; undescended testicles; extremely marked genu valgum, the knees overlapping so much that progress was extremely difficult. The ends of the bones were not enlarged and the rickets was not considered to be active.

Urine on admission acid, 1005, no albumin.

Operation for genu valgum on September the 19th. Up to October the 7th progress was quite uneventful and satisfactory. A slight trace of albumin was present in the urine a week after operation. On October the 8th the appetite failed and he complained of vague pains, sometimes in the abdomen and sometimes in the limbs. The albumin markedly increased, respiration rose to 32 and the pulse to 132 and there was some cyanosis. On October the 12th he became drowsy and had deep breathing. At this date the urine contained a large quantity of albumin but no sugar or acetone. The temperature was normal throughout except on October the 8th, when it rose to 99·4° F.

I first saw him on October the 13th, and the likeness to the preceding case at once struck me. The skin showed the same yellowish tinge and lack of elasticity. He appeared to be about ten years of

age; there was no pubic hair and the genitalia were not developed. He was rather drowsy and showed well-marked air-hunger. During this day he passed no urine.

At the autopsy the kidneys were very small, together weighing less than one ounce. The capsules stripped readily; the surface was not granular, but was irregular, with large rounded projections, in appearance somewhat like the fœtal lobules. There were no cysts. On section the cortex was relatively diminished only between the prominences.

Microscopically the tubules were widely separated, but less so

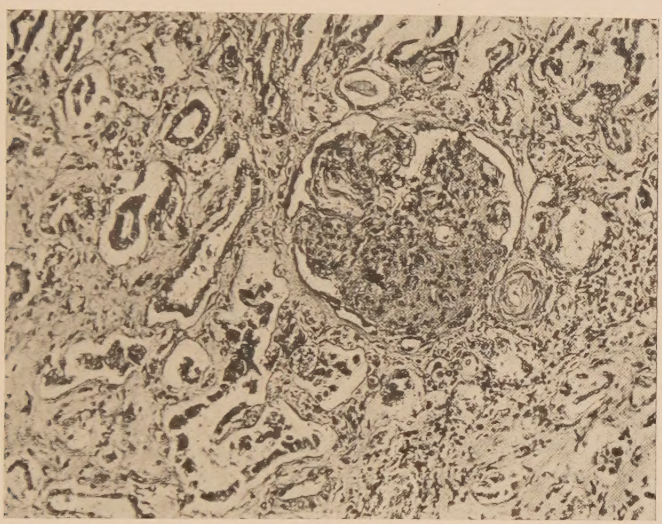

FIG. 2 (from Case 2). Showing the slight degree of change in a Malpighian body; (*a*) Bowman's capsule is not thickened; (*b*) about half the tuft is invaded by fibrous tissue.

than in Case 1. The epithelium of the convoluted tubules was cubical in shape and separated from the basement membrane. The tubules were shrunk and not dilated anywhere. The collecting tubules showed little change. The interstitial tissue was greatly increased and in places it was very cellular, consisting mainly of large aggregations of lymphocytes. Bowman's capsule was not thickened. There was no fibrous contraction of the tufts, but at the neck the interstitial tissue was seen invading the glomeruli. The arteries were not thickened.

The heart showed moderate hypertrophy of the left ventricle. The liver and spleen were unaffected.

The microscopical appearances in Case 1 correspond very closely with those in Parsons' case, while in Case 2 the changes are less advanced, there being no cyst formation and comparatively little change in the Malpighian bodies.

Dr. Alan Turner, Physician to the Sheffield Children's Hospital, has kindly allowed me to mention a case that was under his care for the last month or two of life. This youth, aged 19½ years, was very tiny, but bright and active. When first seen he was suffering from an attack of cystitis, but after this cleared up albuminuria persisted, and he finally died with well-marked uræmic symptoms. He showed no rickety deformities.

I obtained the following history from the parents: He was very small when born, and was somewhat premature. He suffered from "consumptive bowels" when an infant, and he was two years old before he walked. He was always a small eater, but drank a great deal, and passed a large quantity of urine. His parents were "afraid of diabetes." At thirteen years old he weighed 28 lb.; when in his later teens he used to stand on a table and recite poetry. His intelligence was apparently fairly good as he reached Standard VI or VII at school.

Taking all the cases together there are eight showing the relationship of infantilism with polyuria and polydipsia. In all but one albuminuria was shown to be present at some time, in five out of the eight rickets was present, and in four the rickets was of late onset; all those which have come to autopsy (four in number) have shown marked fibrosis of the kidneys. In Dr. Sutherland's case, although the urine showed no albumin, yet the arteries were thickened. The Wassermann reaction in all the tested cases was negative.

In my own Case 1, the association of hypospadias and the presence of congenital morbus cordis in another member of the family are suggestive. In Case 2, although aged 16 years, the testes had not fully descended.

The infantilism in all these cases seems to have been fairly pronounced, especially on the physical side; on the mental side it was more variable, and in Dr. Turner's case almost absent, though even here the intelligence seems to have been that of a sharp child rather than that of a youth of twenty.

The presence of rickets, usually of late origin, in as many as five out of the eight cases, is a striking phenomenon. Dr. Barnes, of the Sheffield Royal Infirmary, has kindly given me a short account of a girl, aged 17 years, who was markedly infantile in appearance.

She was operated on for genu valgum, and died shortly afterwards with uræmic symptoms. Her kidneys were small and fibrotic. I have not included this case in my list as it was quoted from memory and I have no notes.

There is a rather striking facial resemblance among these children. Dr. Fletcher remarked that Dr. Miller's case might be the twin brother of his own, and I could say the same of my own Case 1. Case 2 was so much like him that in spite of the difference in age I was struck by the resemblance as soon as I entered the ward.

Those I have seen do not at all resemble children with syphilitic infantilism.

Dr. Parkes Weber has just published an account of a boy, aged 10 years, with polyuria and polydipsia, but without albuminuria, and with a positive Wassermann. In him, however, the infantilism appears to be of slighter degree, as the height and weight are much nearer the normal and he is described as "active, bright, and intelligent."

Since the above account was written Drs. Miller and Parsons* have published their paper on "Renal Infantilism," and have mentioned two other cases which belong apparently to the same class as Dr. Weber's, as well as two further cases with nephritis.

OBSERVATIONS ON SALINE SOLUTION IN EPIDEMIC DIARRHŒA.

By J. Ross Mackenzie, M.D.Aberd.

It is of paramount importance for the general practitioner, and more especially for those who are connected with institutions supported by voluntary contributions, that some reasons should be formulated why normal saline solution should be discarded, and that some estimate should be made of the necessity for, and the therapeutic value of, injecting sea-water plasma in preference to normal saline solution in epidemic diarrhœa.

The object of this investigation was to find from a series of consecutive cases of epidemic enteritis in infants under one year—

(1) The percentage of cases (*a*) which resist ordinary treatment, and (*b*) which recover under injections of normal saline solution.

(2) The morbid conditions which prevail in such cases.

* 'British Journal of Children's Diseases,' 1912, ix, p. 289.

(3) The explanation of the sudden and permanent response of the organism to injections of fluid.

(4) The value of normal saline solution as compared with sea-water plasma to infants *in extremis*.

(1) The number of cases of epidemic enteritis which do not respond to ordinary medicinal and dietetic measures such as are practised in many children's hospitals is comparatively small, and in my experience forms 15 per cent. of genuine cases.

This statement does not alter the fact that the dangers of this malady in children are very real and a constant menace as soon as the temperature of the soil registers 54–56° F. It does, however, emphasise the fact that a large number of cases of epidemic diarrhœa recover apart from injections of either sea-water plasma or saline solution.

The administration of the former has been unfortunately vaguely practised to my knowledge in many cases of diarrhœa, epidemic or otherwise, and at an age when acute epidemic enteritis is practically unknown, without any attempt to find whether other and less expensive measures would avail, or to separate mild from severe cases except in terms of cubic centimetres of sea-water plasma.

Statistics compiled from such sources will be very misleading and most unsatisfactory. The routine treatment adopted, and which proved efficient in 85 per cent. of my cases, was as follows:

(*a*) The stomach was washed out at the commencement of the illness, followed by complete starvation for twenty-four hours, except for frequent sips of luke-warm boiled water to each ounce of which had been added ten drops of brandy and 5 gr. of sodium citrate, the child meanwhile being carefully guarded from the cold.

(*b*) One drachm of oleum ricini was given either immediately after washing out the stomach or at the end of twenty-four hours and repeated in two hours, together with $\frac{1}{8}$ gr. pulv. ipec. co. every four hours.

(*c*) The bowel was washed out with saline solution twice a day, and after the washings were quite clear half a pint of normal saline was given along with 1 ♏ tinct. opii, to be retained.

(*d*) At the end of twenty-four to thirty-six hours most cases could retain either whey or white of egg along with the boiled water as before, and at this stage oleum ricini could be administered in 3 to 4 ♏ doses every four hours, which acted in this way as an admirable astringent.

(*e*) After forty-eight hours, two to three drops of extract of malt were added to the whey or white of egg, and the boiled water and saline enemata continued.

(*f*) At the end of the third day the child could retain albulactin along with increased doses of whey and malt. No milk was given until after the tenth day, and was carefully sterilised.

(*g*) On the earliest signs of collapse a mustard bath was given and repeated if necessary.

If the oleum ricini is not retained, mercury in the form of grey powder or calomel $\frac{1}{8}$ gr. doses may be given along with the minute doses of pulv. ipecac. co., and repeated every two hours : while if the diarrhœa is obstinate, silver nitrate $\frac{1}{8}$ gr. doses in dilute nitric acid by the mouth every four hours frequently acts as an efficient remedy.

It is satisfactory to note that some of the most serious cases responded rapidly and permanently to this treatment, and more particularly as on several occasions permission to inject either sea-water plasma or saline solution has been refused by the parents in cases which seemed most urgently requiring such remedies.

(2) The morbid conditions present in cases resisting such treatment are persistent vomiting and diarrhœa with profound toxæmia and collapse, evidence of which is found in the depressed fontanelle, sunken glazed eyes, loose, inelastic folds of skin, cold, livid extremities, and slow, laboured respiration. These collapsed infants pass very little, or it may be no urine at all, and I attach great importance to this fact.

In cases of epidemic diarrhœa the amount of urine passed daily is a reliable index of the severity of the toxæmia, as well as of the progress which the infant is making towards recovery, while actual suppression of urine is the presage of impending dissolution.

Frequently there is difficulty in eliciting evidence of anuria from the mother, who is misled by the copious and watery stools.

Anuria is the key to the moribund condition of the infant with epidemic diarrhœa, and is caused by a lowering of the general blood-pressure, and more especially of the blood-pressure in the kidneys, so that they refuse to observe their function.

Briefly, it is a toxæmia resulting in low blood-pressure and anuria, which, in turn, produces an accumulating toxæmia with collapse and death.

(3) According to Quinton, the mode of action of sea-water plasma depends upon the fact that all superior organisms had their primary environment in the sea, and have retained a blood-plasma, whose mineral constituents are identical with those of the original seas. He suggests that this original medium is necessary to all cellular life, and that it is changed and deteriorated in certain affections, prominent among which is acute epidemic diarrhœa in infants.

It is further maintained that the subcutaneous injection of diluted sea-water alone corrects the morbid conditions of the medium, and that forthwith the organism and its cellular activities enter upon a new lease of life. This may be correct under conditions when sea-water plasma can be continued over a period of time as in cases of marasmus or psoriasis. No such conditions obtain in epidemic diarrhœa. I am convinced that the immediate response to the injection of sea-water plasma or normal saline solution, or sterile water as the case may be, is not due to any particular or isolated constituent of the fluid, but rather to an increased blood-pressure. The raising of the blood-pressure promotes an increased secretion of urine and the consequent passage of a large quantity of the accumulated toxins acting adversely upon the functions of the organism. The evidence of this is that almost simultaneously with the injection of fluid there is a copious flow of urine, absence of signs of collapse, and within a few hours vomiting and diarrhœa have ceased.

In the table appended will be noted the case of an infant who was injected while in a moribund condition with 30 c.c. sterile water, and recovered. Further injections were recommended but were disapproved of by the parents.

(4) The comparative therapeutic value of sea-water plasma and saline solution in epidemic diarrhœa cannot be fully estimated at the present moment. Experience in the use of sterile water and saline solution shows that the organism responds, not more rapidly, but somewhat more permanently, to normal saline solution than to sterile water. This becomes more evident when hypertonic saline solution is used, and must be attributed to the saline constituents present in the injected fluid. It is possible, therefore, that further experience may demonstrate that the saline constituents of sea-water, being in the natural state, have a still more permanent action upon the animal organism.

To the infant dying from an accumulating toxæmia it is of vital moment that measures should be adopted, not necessarily of permanent therapeutic value, but which will rapidly raise the blood-pressure and hasten the passage of these toxins. For this purpose both saline solution and sterile water have proved highly efficacious. Of my cases resisting ordinary measures, 12 per cent. recovered under injections of fluid. One case revived after an injection of normal saline solution, but subsequently died from broncho-pneumonia. Two uncomplicated cases died, in one of which injection was refused; the other died before the injection could be given.

In the table are recorded five cases of acute epidemic diarrhœa, in

Age.	Feeding.	Indications for injection.	Injections.	Result.	Remarks.
6 months	Artificial	Collapse, absent reflexes, and anuria	*a*. Sterile water, 30 c.c. *b*. Normal saline, 30 c.c. *c*. Sterile water, 30 c.c. *d*. Normal saline, 30 c.c.	Recovery.	First injection on third day of illness, 2nd on fourth, 3rd on sixth, and 4th on eighth.
5 „	„	Collapse, anuria, and wasting	*a*. Normal saline, 40 c.c. *b*. Sterile water, 40 c.c. *c*. Normal saline, 40 c.c. *d*. Sterile water, 40 c.c.	„	First injection on seventh day of illness, 2nd on eighth, 3rd on tenth, and 4th on twelfth.
11 „	„	Persistent vomiting and diarrhœa, anuria, absent reflexes	*a*. Sterile water, 40 c.c. *b*. Normal saline, 40 c.c. *c*. Sterile water, 40 c.c. *d*. Normal saline, 40 c.c.	„	First injection on third day; on fourth vomiting, diarrhœa, and anuria had disappeared.
7 „	„	Anuria and collapse	*a*. Hypertonic saline, 30 c.c. *b*. Sterile water, 30 c.c. *c*. Hypertonic saline, 30 c.c. *d* Sterile water, 30 c.c.	„	First injection on the fifth day of illness.
4½ „	„	Persistent diarrhœa and collapse	*a*. Sterile water, 30 c.c. *b*. Normal saline, 30 c.c. *c*. Sterile water, 30 c.c. *d*. Normal saline, 30 c.c.	„	First injection on third day of illness; on fourth day collapse disappeared; diarrhœa ceased after 2nd injection.
3 „	„	Collapse, anuria, corneal reflex absent	Sterile water, 30 c.c. (one injection)	„	Injected on second day of illness.

each of which sterile water and normal saline solution were used alternately and in each case four injections were given.

The immediate effect of sterile water was the same as saline solution, viz. increased blood-pressure, disappearance of diarrhœa, collapse and anuria; but whereas the saline solution required repetition in thirty-six to forty-eight hours, the sterile water did not fully maintain the renal functions of the organism more than twenty-four to thirty-six hours without repetition. Because of a similar advantage, it would appear that undue importance has been attached to the superiority of sea-water plasma over normal or hypertonic saline solution in epidemic diarrhœa. Any advantages which the former may have in the way of permanence are fully compensated by more frequent injections of saline solution, and by the fact that it is within the reach of every practitioner and the poorest patients, while marine clinics and isotonic plasma are not.

Conclusions.

(1) Collapse in epidemic diarrhœa is due to low blood-pressure and accumulated toxins.

(2) The results obtained from injecting fluid are increased blood-pressure and the passage of those toxins.

(3) The price of isotonic plasma prohibits its use among the poorer classes, while in saline solution we have a highly satisfactory substitute.

(4) Subcutaneous injections of saline solution should be resorted to on the earliest indications of collapse, and in the case of very young infants at the first visit, whether collapsed or not.

A CASE OF NODULAR LEUKÆMIA.*

By Gordon R. Ward, M.B., B.S.

For many of the details of this case I am indebted to Colonel Scanlan, who saw the child before admission to hospital, and to Dr. Mitchell, of the Royal Surrey County Hospital, who kindly afforded me every facility for examining the patient. I am also indebted to the Resident Medical Officer, Dr. Kerr, for much information.

The patient was a child, aged nearly 2 years. About six weeks before admission she had suffered from whooping-cough, and had not entirely lost the characteristic cough at the time of her death. There was no other previous illness of note. About the same time she was noted to be getting pale and had signs of rickets. She was treated for some time by Colonel Scanlan as a case of rickets, a diagnosis latter concurred in by Dr. R. C. Jewesbury. After a few weeks symptoms developed which seemed to be incompatible with this diagnosis—viz. swelling of the glands of the neck, slight exophthalmos, and an increased degree of anæmia. Colonel Scanlan formed the opinion that the patient was suffering from chloroma, and she was admitted to the Royal Surrey County Hospital on November the 6th, 1911. A few days before admission she had a severe attack of epistaxis and bruising in various parts of the body.

The notes on admission were briefly as follows: The patient resents any attempt to move her and lies curled up in bed. There is apparently tenderness of the epiphyses, and those of the radius and

* Extract of a paper read before the Medical Section, Royal Society of Medicine, on April the 23rd, 1912.

ulna are thickened on both sides. There is beading of the ribs. The skin is waxen and the mucous membranes white. There is no obvious exophthalmos. The gums are swollen and bleeding freely. Tongue very furred. Heart and lungs normal. Abdomen protuberant, liver one finger's breadth below the costal margin, spleen not palpable, but this may be due to the fact that palpation seems to be productive of considerable pain, and so has not been persisted in. Enlarged glands in both groins. Purpuric spots on legs. There is a blood-stained discharge from the nose and slight discharge from the ears.

Between this time and the occasion—about two months later—on which I saw the child, there seems to have been a succession of septic troubles, progressive enlargement of the glands in the neck, and increasing anæmia. A blood-count made a month after admission and about the same time before death was as follows. It was made, from specimens sent to him, by Dr. Alex. E. Gow :

Red blood corpuscles . .	1,950,000 per cubic millimetre.	
Nucleated red blood corpuscles	235 per cubic millimetre.	
White blood corpuscles . .	10,000 per cubic millimetre.	
Polymorphonuclears . .	4200 per cubic millimetre, or 42 per cent.	
Eosinophiles	130 per cubic millimetre, or 1·3 per cent.	
Small mononuclears . .	5300 per cubic millimetre, or 53 per cent.	56·6 per cent.
Large mononuclears . .	360 per cubic millimetre, or 3·6 per cent.	

Poikilocytosis and polychromatophilia well marked.

The percentage of mononuclears is high, but the total number not higher than one may reasonably expect at that age ; moreover, the child was suffering from whooping-cough, a disease which may of itself give rise to a leucocytosis as high as 100,000 per cubic millimetre. In view of the later finding of lymphæmia this presence of whooping-cough is of interest as a possible ætiological factor, but probably the interest is more apparent than real. The right pre-auricular gland was the first to enlarge of those about the head ; this has been noted in other cases. On more than one occasion the glands threatened to suppurate, but this—although recorded in some cases—did not actually occur. There were, of course, abundant septic foci which might have led to breaking down of the glands—viz. middle-ear disease, conjunctivitis, purulent rhinitis, and extensive oral lesions. The glands in the neck reached a very large size, and the skin over them was discoloured and appeared greenish. This is not to be wondered at, as most of them were the seat of hæmorrhages of varying extent. Other features were the presence of sub-conjunctival and other hæmorrhages and of a greenish infiltration of the scalp. The green colour of the latter was not noted post mortem, and some, at least, of the apparent infiltration was œdema over the

skull-nodules found in that situation. These never reached a great size and were not distinguishable during life. One of the most interesting features was the sudden appearance of several small skin-nodules in the scalp. These were of the same colour as the surrounding skin and lasted only a few days. There was also a rash on the back. It is not certain of what nature this was, but a rash has preceded the appearance of nodules in several cases.

The writer did not see the case until three days before death. The notes then made were as follows:

The patient looks extremely ill and lies in bed with the legs flexed, and objects to any attempt to move her, which seems to cause pain. The examination was considerably hindered by the pain, as there seemed no adequate reason for distressing the child in order to elucidate points that were so obviously likely to be apparent in a few days from a post-mortem examination. The colour of the face was yellowish-green, and this was even more marked over the glandular swellings in the neck. The scalp was not green, but slightly œdematous. The gums were swollen and bleeding. On such parts as could be seen small lymphoid nodules were plainly visible. The nose was not clear, and there appeared to be a bloodless discharge from it. The eyes were hardly, if at all, prominent; the pupils were normal. It was not possible to get a view of the fundi. There was a small recent hæmorrhage at the outer canthus of the left eye and a larger subconjunctival one on the same side. The eyelids were swollen and nearly hid the right eye. From both conjunctival sacs there was a slight discharge. The ears appeared to be normal but it was not possible to get a good view of the drums. The child was apparently not deaf.

On both sides of the neck were swellings obviously due to enlarged glands; these were largest on the right, the side on which they first appeared. The individual glands were discrete in places, but in others appeared to be matted together. There were two swellings which it seemed were possibly connected with the bone, but this was subsequently discovered not to be the case. The first was situated just below the ramus of the jaw on the right side, and the second was in the left parotid angle and caused some difficulty in opening the mouth. All these swellings were moderately hard, and the skin over one of them was somewhat red. In both axillæ were several small hard glands about the size of peas. It was not possible to palpate any glands in the groin. There were three purpuric spots on the back, but no others except those mentioned near the eye. The liver and kidneys defied palpation, but the apex of an enlarged

spleen could be felt to strike the hand at about the level of the umbilicus.

There were crepitations and râles over the whole of the front of the chest; the back was not examined. The pulse-rate and temperature were both elevated. The urine was of a yellowish-green colour, and contained a deposit of phosphates. It did not contain albumin, and this had been noted only once since admission. The patient had gained weight during the last week—a feature of Hall's case. In his case this increase in weight coincided with a diminution in size of the tumours and of numbers in the lymphocytes.

Post-mortem Examination.

This was made on the third day after death. There was little or no post-mortem decomposition and no discoloration of the skin beyond that due to ante-mortem hæmorrhages.

The lungs showed extensive œdema and in parts patches of broncho-pneumonia. They were very pale. There was slight general enlargement of the bronchial mediastinal glands, but the thymus was not identified, and was certainly not hypertrophied. The pericardium was normal. The left side of the heart was very markedly hypertrophied, and there was patchy fatty infiltration, but no definite tabby-cat striation. There was a little stringy white clot in the heart.

The intestines were healthy to the naked eye, except that in the colon there were minute dark-coloured specks which seemed to represent hæmorrhages into the smallest lymphoid follicles. All the mesenteric glands were enlarged to about the size of a cob-nut, and most of them were the seat of hæmorrhages. The liver was enlarged and reached at least two inches below the costal margin. It was pale and slightly fatty, and contained many well-marked light areas.

The spleen was considerably enlarged and dark red in colour. The cut surface presented a homogeneous appearance.

The kidneys were both enlarged, and were alike in being the seat of extensive changes. They were mottled with white and red in spots and streaks of all sizes, and the surface was rendered irregular by hæmorrhages into their substance and by nodules of growth.

Only one of the adrenals was found, and this was white on section, and the differentiation between cortex and medulla was not seen.

Other than those already mentioned only the lymphatic glands of the neck showed marked changes. These were very much enlarged,

were not green in colour, and were the seat of hæmorrhages. All the lumps about the head and neck noted during life were due to glandular swelling. The glands in the axillæ and iliac regions were small and harder than those in the neck. There was no excess of lymphoid tissue at the posterior aspect of the tongue, but there was a small mass of lymphoid tissue on either side of the epiglottis These were of a dull olive-green colour, but this colour had disappeared the next day.

On removing the scalp there was revealed a very striking condition. The major portion of the frontal and parietal bones was covered by a number of flat sessile tumours, which cut as if they were thickened periosteum and stripped off with the periosteum when it was removed. Most of them were the sites of hæmorrhages. These tumours were no doubt responsible for some of the apparent thickening of the scalp noted during life, when there was, however, no suspicion that there were definite nodules in this position.

The inner aspect of the same bones presented a similar appearance, and there were also nodules of growth in the middle and posterior fossæ. Besides the actual nodules, of which the majority were flat and sessile, there was a diffuse thickening of the dura mater, particularly marked about the torcular Herophili and the venous sinuses generally. This appeared to be of a more fibrous consistency than the nodules. When the dura was stripped off it took all the nodules with it, nor was it difficult to strip except at the sutures. The underlying bone was left covered with spicules divided from each other by fossæ of varying depth and size.

There was neither discoloration nor tumour of the brain itself. There was excess of the cerebro-spinal fluid but no œdema of the meninges. The diploë showed a very thin layer of red bone-marrow. That of the sternum was of a similar colour, and was only present in small nodules which seemed to represent centres of ossification. That of the femur was darker in colour. As it had been difficult to obtain permission for an autopsy, it was considered inadvisable to examine any other bones.

Slides were made from the following organs: glands, lymphoid tissue about epiglottis, skull-nodules, liver, kidney, adrenal, heart, marrow, dura mater, and spleen. These slides were made by just touching the cut surface of the organs with a clean slide, care being taken not to exert any pressure in a direction likely to give rise to smearing. These "contact slides" allow of a much more useful examination than the usual "smears." In all cases there was seen an excess of cells of a type identical with those of the

blood. In many cases there were masses of white cells, showing that foci of lymphoid proliferation had been cut across.

Sections were also made of these tissues and will not be described in full, as they varied in no important particular from other published descriptions. They may be briefly summarised as follows :

Glands.—These showed the normal structure of a lymphatic gland in a state of extraordinary activity. The sinuses were packed with cells and the various zones of the glands obliterated by the excessive proliferation of cells. They contained a minimum of fibrous tissue.

Lymphoid tissue from the epiglottis.—This showed a similar appearance to that of the glands.

Spleen.—This also showed an appearance roughly comparable to that of the glands, but there was more fibrous tissue and some proliferation of endothelial cells, with signs of blood destruction in the presence of pigment-granules and phagocytosis of red cells.

Liver.—The perivascular infiltration was well marked, and the white areas referred to were seen to be due to collections of white cells similar to those in the blood.

Kidney.—This showed many changes. Cloudy swelling and infiltration with lymphocytes, here and there definite nodules. The glomeruli were not especially affected nor the areas around them, but on the whole the kidney was the seat of denser infiltration than any other part of the body.

Heart.—This showed no lymphoid foci in the sections, but one such was apparent in a contact slide.

Marrow. — No section made ; contact films showed enormous numbers of cells identical with those in the blood.

Dura mater.—The nodules were seen to be growing mostly from the superficial layers. No connection traced with the deeper layers.

Skull nodules.—Similar to those of the dura mater.

Blood Examination made on January 5th, 1912.

Red blood-corpuscles	628,200 per cubic millimetre.
Nucleated red blood-corpuscles	Four only seen after prolonged search ; of these one was a megaloblast, the rest normoblasts.
Megalocytes, of 100 cells measured	15 per cent. (9 to 10 mm.).
Microcytes, of 100 cells measured	11 per cent. (4 to 6 mm.).
Average size, of 100 cells	7·49 mm.
Poikilocytosis frequent, but little polychromasia or stippling.	
Hæmoglobin	15 per cent.
Colour index	1·209.

White blood-corpuscles	52,350 per cubic millimetre.
Polymorphonuclears	676 per cubic millimetre, or 1·3 per cent.
Eosinophiles	52 per cubic millimetre, or 0·1 per cent.
Mast cells	52 per cubic millimetre, or 0·1 per cent.
Transitional leucocytes	624 per cubic millimetre, or 1·2 per cent.
Neutrophile myelocytes	52 per cubic millimetre, or 0·1 per cent.
Abnormal lymphocytes	50,894 per cubic millimetre, or 97·3 per cent.
Platelets	Almost *nil*.
Coagulation time (Mercier)	63 seconds.
Iodophilia	Absent.
Fibrin formation	Good.
Rouleaux formation	Normal.
Spectrum	Oxyhæmoglobin.

Among the "abnormal lymphocytes" the majority were about the size of an ordinary lymphocyte. The nuclei took up most of the cell and contained one to four nucleoli. The protoplasm was ragged and frayed in most cases. The larger cells were as much as twice the size of a lymphocyte and stained less deeply, the nucleoli being more pronounced and the protoplasm clearer. Beside these, every intermediate grade was seen and every variety of cell fragmentation and karyolysis of the nuclei. Mitosis was rare, only two quite unequivocal figures being seen, but there was a larger number of more dubious forms.

In fresh films of the blood one or two points were noted which are of interest. The fibrin formation was surprisingly good considering the hæmorrhagic tendency which the patient exhibited. The writer has noticed a similar anomaly in other cases of severe anæmia, and is inclined to attribute the hæmorrhagic tendency, not to deficient clotting, but to a deficient amount of red corpuscles. This means that the clot formed from any given volume of blood is not nearly so extensive or dense as a similar clot in a healthy person, in which case it is hardly to be wondered at that it does not satisfactorily close a bleeding vessel.

Rouleaux formation was as active as normal, but the resulting rouleaux suffered from the varying sizes of the corpuscles.

In a film ringed with vaseline and examined by dark-ground illumination and in the ordinary way there was seen an enormous excess of those bodies, which are grouped together as "blood dust," which is a conveniently expressive term, or hæmoconia—a scientific label which we owe to Müller. On closer examination these were seen to be abnormal not only in number but in size. There were the usual minute granules only visible with the dark-ground illumination, but in addition there was a vast multitude of granules

about the size of those of eosinophile cells. These were aggregated into chains and groups and had all the appearance of cocci. They did not, however, stain with methylene-blue or Giemsa and were similarly refractive to Sudan III and osmic acid. They must have been present in the blood when it was drawn or very soon after, as they were quite plain in a slide fixed with iodine vapour for the determination of iodophilia. They did not in the least resemble platelets or the *débris* from their disintegration. The writer has observed such granules in another case of nodular leukæmia, but in this case they were within the cells and some of them seemed to stain slightly with osmic acid. Presumably the granules in both cases were but little removed from those which cause the green colour of chloroma. That this colour is present in the blood has been obvious in some cases. They are probably the expression of some variety of degeneration, perhaps particularly apt to occur in primitive cells but also present in pus in some cases.

The above case is the third recorded case simulating "chloroma" clinically but without green colour of the growths.

A CONTRIBUTION TO THE STUDY OF APPENDICITIS IN CHILDREN.*

By Alex Mitchell, M.A., M.Ch.,
Assistant Surgeon, Aberdeen Royal Hospital for Sick Children.

Mr. President, Ladies, and Gentlemen,—In contributing to the subject of this discussion, "The Treatment of Appendicitis in Children," I propose to limit the scope of my paper to the consideration of a special class of acute cases, those in which the disease had extended in an unmistakable manner beyond the confines of the peritoneal covering of the appendix, resulting in gangrene or perforation with varying degrees of peritonitis and pus-formation.

During recent months there has appeared in medical literature a considerable number of articles dealing with the subject of acute appendicitis, and emphasising the need of early surgical treatment, particularly in the case of young subjects, in whom especially, most writers are agreed, the disease is liable to be found in its most treacherous and fatal forms. It seems, therefore, that some benefit

* A paper read before the Aberdeen Medico-Chirurgical Society on April the 4th, 1912.

might be derived from the study of a number of consecutive cases in which the initial treatment varied greatly in each case, but at some time in all cases the patient was brought to the Sick Children's Hospital and subjected to surgical treatment.

In this series are forty cases.

The youngest patient was fourteen months old and the oldest thirteen years. The average duration of the illness was, as far as could be ascertained, five days, but in a considerable number of cases two or three days had elapsed before medical aid had been called for. Nausea and vomiting were not prominent symptoms in all cases, but in, I think, every case, abdominal tenderness and rigidity were present in some degree at some stage of the illness. In only about 6 per cent. of the cases there was a definite history of a previous attack, but in a much larger proportion a history of previous continued "stomach-ache" was afterwards obtained.

The conditions found at operation may be best appreciated by dividing the cases into four main groups.

In nine cases there was a large abscess walled off and directly accessible by incision through the abdominal wall. In one of these cases, although the abscess was apparently completely walled off, and was at the time of operation regarded as such, the patient died six days after from a diffuse septic peritonitis. Another case developed a fæcal fistula, and then showed marked signs of intestinal obstruction. An attempt to relieve this condition resulted in the death of the patient. In a third case, in a poorly nourished child of fourteen months, the abscess was opened by aid of local anæsthesia and drained, but the child never regained his vitality and died a fortnight later. The other six cases recovered, and five of them were afterwards subjected to further operation for removal of the appendix, which was found worthy of attention in every case. Several had some degree of ventral hernia, which was cured at the second operation.

In five cases of localised abscess the peritoneal cavity had to be opened up before the abscess was reached. In three of these cases there was a small collection of pus round the appendix in a retro-cæcal or retrocolic position. These three cases were operated on after the subsidence of the first acute attack. Another case in a child of five years old was operated on in the acute stage of its third attack. Here a collection of pus was found confined to the area about the base of the cæcum by a mass of omentum which was evidently becoming gangrenous. In the fifth case, operated on in the fourth day of his illness, there was found at the brim of the

pelvis a collection of pus about the size of a small tangerine orange. This case progressed most favourably for some time, but required a second operation for a subphrenic abscess, which was opened and drained by the transpleural route. The patient died thirty-six days after admission and seven days after his second operation, and was thought before death to be suffering from septic endocarditis. No autopsy was permitted. The other four cases in this group made uneventful recoveries.

In the remaining twenty-six cases no definite adhesions were found shutting off the appendicular area from the rest of the peritoneal cavity, and here classification is more difficult as the difference is only a question of degree of a spreading infection.

In eighteen cases the condition was noted as a spreading or diffuse peritonitis with gangrenous appendix with one exception, in which a diffuse peritonitis was found, but the appendix, which was removed, did not show any gross lesion. This case had all the appearances of a pneumococcal peritonitis, but on culture the pus was found to contain a streptococcus along with the *B. coli*, the organisms most frequently found in peritonitis of appendicular origin. Post-mortem examination did not reveal any intestinal perforation or other lesion to explain the peritonitis. I regret that I had no microscopic examination made of the appendix. Six of these cases died, three within twenty-four hours of operation. One case, suffering from marked bronchitis on admission, developed a septic pneumonia, and another a localised empyema, but both recovered. Several of the cases that recovered required further treatment for ventral hernia.

In the remaining group are included eight cases in which the appendix was gangrenous, but there was little or no appearance of peritonitis—an indication that the disease was less advanced than in the previous group. All these cases recovered. The average duration of illness was under forty-eight hours, as compared with five days, which was, as far as could be ascertained, the average period of illness of the whole series.

Taking all these cases together we have forty cases with ten deaths, a mortality of 25 per cent., or one in four, while of those that recovered several required a second operation and some suffered from dangerous complications. On the other hand, in all the cases operated on over the same period of two years in the acute stage, before the infection had visibly extended beyond the peritoneum of the appendix, no life was lost. (These non-suppurative cases are of course not included in this series.)

The method of operation was similar in each case. Except in

localised abscesses, reached directly by abdominal incision, the appendix was removed, the uninfected areas of peritoneum being, where possible, packed off, and any free pus carefully mopped up, care being taken not to injure the peritoneum, and particular attention being given to the pelvis and to the kidney pouches. With one exception, ether, with a little chloroform in the initial stages, was the anæsthetic used, and no complication was traceable to the anæsthetic. In most cases a simple enema was given before operation, and salines (with glucose and soda bicarbonate) were given continuously, or at intervals of two or three hours for the first twenty-four hours after operation. Drainage was employed in all except three cases, in which there was practically no sign of peritoneal infection. In two of these cases the wound had to be opened up and a small drain inserted. In all cases where there was an appreciable amount of peritoneal exudate the pelvis was also drained by a Keith's glass drain, into which a fine rubber tube was inserted and connected with a Cathcart's apparatus. Morphia was not given as a routine after operation, but in a few cases where it was thought to be specially called for.

From a consideration of these cases alone it must be admitted that appendicitis in children is a dangerous condition, and at the same time a deceptive one, inasmuch as it is very difficult to determine the stage at which the disease is in any given case.

While a number of cases will get better without operation, reaching as they do no further than the catarrhal stage, experience of several cases in a more advanced stage brings home to one clearly that when the infection has got beyond a certain stage the disease will advance rapidly and kill the patient, except in a small proportion of cases where the patient's resistance is sufficient to produce a firm barrier round about the appendicular area, resulting in the so-called "appendix abscess." This condition, although immeasurably preferable to a wide-spread peritoneal infection, is not without its dangers, especially in young patients. Also in dealing with children it cannot be too strongly emphasised that they are not good subjects for acute septic infection of the peritoneum, and that they are very liable to the various undesirable sequelæ. Moreover, in very early life the appendix is often in a high position in the abdomen, and, as adhesions are not readily formed, the peritonitis from the first is liable to be fairly diffuse and to involve the peritoneum of the upper abdomen—a condition which is more serious than when the pelvic peritoneum is alone the seat of the infection.

The question then arises—Are we, as clinicians, in a position to say definitely at the outset, "This is a case that will subside if left alone" or "This is a case that cannot do well, but demands immediate operative treatment"? In adults it may be urged with some show of reason that we can distinguish, but even here it is questionable if we ought to rely too strongly on our judgment on this point, and in young children I am convinced that the safest course to pursue is not to be too confident of one's power of estimating the exact condition of the appendix.

I have refrained as far as possible from wearying you with detailed clinical histories, but in many of the worst cases, hours or even days were allowed to elapse by careful and experienced clinicians because the general or local signs did not appear to be so severe as to demand operation, and in many of these cases the extent of the mischief was never truly estimated until the abdomen was opened.

From the foregoing it is not to be inferred that a careful clinical examination should not be made, but that it should be thorough and repeated at frequent intervals so that a definite diagnosis of the disease can be made at the earliest stage of its course. In this way only can we hope to intervene in every case before pus has formed, although this ideal cannot always be attained, as in a certain proportion of cases operation was done within a few hours of the first visit of the medical attendant and free pus was found, so rapidly was it formed in many cases. I would again urge that morphia should never be used in the treatment of these cases, as a dose sufficient to alleviate the patient's suffering will entirely change the clinical picture without in any way arresting the progress of the infection. If the patient is to be transported several miles to hospital, it is a good plan to give an appropriate dose of morphia, as by so doing we can make his journey comfortable and greatly diminish shock, but this should be done only after the diagnosis has been made and the line of treatment decided on, and never in doubtful cases sent in for observation. In every such case a note should accompany the patient detailing the abdominal condition prior to the administration of the drug. In early and doubtful cases phenacetin or aspirin will help to soothe the patient and will not mask the symptoms. The patient should be put at once in the Fowler position, and rectal salines, preceded by a simple enema, administered, all food by the mouth being withheld.

An appreciation of the difficulty of early diagnosis in these cases and of the high mortality and morbidity with which they are

associated, along with the hope that they may be an incentive to some profitable discussion, is the motive for putting before you these facts, and the conclusions which appear to us, at least, to be correct ones to draw from them.

In conclusion I wish to express my gratitude to Mr. Gray for his invaluable advice and encouragement in the treatment of the large proportion of these cases that fell to my lot and in the preparation of this paper.

HERPES ZOSTER BY CONTAGION.

By Solon Veras, M.D.,

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Membre Correspondant de la Société de Pédiatrie, Paris.

The contagiousness of herpes zoster has given rise to much discussion. Some authors (Klamann [1], Millon [2], Paggi [3], and recently Cruchet) [4], have published cases of herpes zoster transmitted by contagion, but these cases are not very numerous.

I have therefore thought it would be interesting to record the case of two children of the same family living in the same house, and affected with herpes zoster at six days' interval, from which one may conclude that contagion played the principal part.

On March the 20th, 1912, I was called to see a little girl, aged 6 years, who had a temperature of 103·3° F., and presented an eruption on the abdomen; these symptoms the family thought to be chicken-pox, such an epidemic existing at the same time in Smyrna.

The eruption was semi-circular, starting from the left lumbar region, and was visible on the abdomen along a line about two inches from the umbilicus. The character of the eruption was erythemato-vesicular. There was no other eruption whatever on the whole body. The child presented no other symptom besides the fever and the eruption; she was cheerful, and did not complain of any pain.

The eruption appeared on the abdomen as little red patches mixed with papules; only on the back towards the lumbar region a little group of vesicles was noticed. This is characteristic of herpes zoster in its different stages of evolution.

A solution of picric acid of 1:100 was applied, and the child was put on milk diet. No medicine was given, except a mild laxative, the child having always been subject to constipation.

The zoster ran its course for a day more, a few more papules becoming vesicles, and then all the symptoms gradually vanished; when the vesicles were dry the eruption was sprinkled with a mixture of zinc oxide, talc powder, and starch. The temperature gradually fell and became normal on the fifth day. On the sixth day the patient refusing to take the milk, some farinaceous food was allowed. The urine was clear and contained no albumin. Some small crusts still covered the dry vesicles. On the very same day the existence of a similar eruption was noticed on the patient's younger sister, a child three years old, who for the last three days had had a slight fever with nasal discharge and some cough.

The localisation of this eruption was identical with that of her sister, but the symptoms were less marked (three or four vesicles only), and disappeared without causing any complication. Both the children were rather anæmic, having often suffered from gastro-intestinal disturbance. There was no specific or tuberculous heredity.

It should be added that in the same family there was another girl, nine years old, who, although not isolated, was not infected. Two other young ladies, aunts of the children, and living in the same house, never presented the slightest symptoms of a similar eruption.

If, therefore, there was contagion, it only took place between these two children, although all the other members of the family lived together and did not take any particular precautions against infection.

Can we admit, however, that the appearance of these two cases of herpes zoster, occurring about the same time, was due merely to coincidence?

I am naturally inclined to think that a direct contagion infected the second child, who had probably a particular predisposition for it, as the contagion of herpes zoster may be rather slight. A similar observation has been made by Millon, who noticed contagion between only two children out of five of the same family, all living together in the same room.

Can we establish here any relationship between these two cases of herpes zoster and the epidemic of chickenpox existing at the same time in Smyrna?

J. von Bokay [5], in an interesting paper, tried to prove the existence of an ætiological relationship between herpes zoster and chickenpox, but this view does not appear applicable to the present case, no chickenpox having been noticed in the family at this time.

References.

(1) Klamann.—Quoted by Millon in Grancher et Comby, 'Traité des mal. de l'enf.,' 1905, iv, p. 882.

(2) Millon, R.—'La médecine infantile,' 1895, ii, p. 267.

(3) Paggi.—'Settimana med. Sperimentale,' 1896, 1, p. 459.

(4) Cruchet, R.—'Paris méd.,' 1910, ii, p. 102.

(5) Bokay, J. von.—"Ueber den ætiologischen Zusammenhang der Varizellen mit gewissen Fällen von Herpes Zoster," 'Wien klin. Woch.,' 1909, xxii, p. 1323.

The Royal Society of Medicine.

EPIDEMIOLOGICAL SECTION.

March the 22nd, 1912.

Relation of Housing to the Isolation of Scarlet Fever and Return Cases.—Dr. Miles Arnold stated that 2192 cases of scarlet fever were investigated with regard to the relation of housing to isolation of scarlet fever. These cases occurred in 1976 houses, and 1529, or 57 per cent., were removed to hospital.

Of the home-treated, 72·5 per cent. occurred in houses in which there was less than one inhabitant per room, and there were 1·05 susceptible persons per house remaining, while only 36·2 per cent. of the hospital group came from houses in which there was less than one inhabitant per room, and as many as 2·01 susceptible persons were left behind.

Incidental cases, *i. e.* those beginning between seven days after the isolation of the invading cases and before the release from isolation of the patient, occurred in 1·5 per cent. of the susceptible among the hospital group. On the other hand, as many as 10·2 per cent. were recorded in the home series. In the hospital class, where the population is from 1 to 1·5 per room, there was a percentage of 1·3 incidental cases, whereas under similar numerical conditions among the home group the high percentage of 13·4 was reached.

The 663 treated at home were followed by 11 recovery cases, or 1·7 per cent., or 1·8 if reckoned on the 586 susceptible persons.

There were 98 return cases among the 2692 susceptibles (*i. e.* among the 2736 minus the 44 incidentals), a percentage of 3·6.

The larger the number of persons living in each room the higher was the percentage of return cases, the actual figures being 3·6 per cent. in houses with less than one person per room, and with more than 1·5 persons per room the figure was as high as 10·1.

In the hospital group 5·1 per cent. of the susceptibles were infected, while in the home-treated group 11·7 susceptibles were attacked. So that the hospital cases, though in less favourable homes, infected less per case than the home isolated patients. Comparing the home conditions in the two groups, among the hospital cases with under one inhabitant per room, 4·9 per cent. of susceptibles were infected, contrasting favourably with a figure of 9·3 among the home group.

Société de Pédiatrie, Paris.

April, 1912. (*Bulletin No.* 4.)

Bromide Rashes in Infants.—Dr. J. Comby related the case of an infant, aged 6 months, whose mother, while nursing it, was taking 15 gr. of bromide of potassium daily. The child had a papulo-scaly eruption which had resisted all treatment but subsided rapidly when the mother ceased taking the medicine.

Pleural Gurgling in a Child aged 8 years.—MM. Variot and Morancé.—The view that this kind of bruit took place in a loculated pleurisy, the gurgling being the result of fluid and gas passing from one compartment to another, was corroborated by radiography. There was a clear zone, which seemed to be a space containing air, 4 to 5 cm. in diameter in the neighbourhood of the angle of the left scapula. The fluid formed an opaque horizontal line marked out distinctly against the clear space above it. The level of this fluid could be displaced by inclining the trunk. The bruit disappeared although the radioscopic image remained unchanged. This could be explained by the closure of the perforation between the cortical pulmonary parenchyma and the pocket of air. The clear patch disappeared later.

Sydenham's Chorea with Organic Nervous Symptoms.—MM. H. Grenet and P. Loubet reported the case of a girl, aged 8 years, with chorea, who showed hypotonus, Oppenheim's sign, and the sign of combined flexion of the thigh and trunk. The authors consider these signs of more value than adiadoco-kinesis, or disturbances of tactile sensation and asymmetry.

Chorea and Infection.—M. Roux reported the case of a boy, aged 11 years, who passed successively through tonsillitis, colitis, subacute rheumatism, chorea, and asthma. The author discussed the question whether all these different phenomena were not caused by one agent, viz. Koch's bacillus.

Scoliosis and Pleurisy.—M. Roederer showed a girl, aged 8 years, the subject of slight spinal curvature following empyema.

Stenosis of Larynx.—M. Abraud reported the case of a boy, aged 5 years, suffering from laryngeal stenosis following diphtheria, which he was able to treat by a method rendered possible by direct laryngoscopy. By means of a special forceps he was able to remove the vegetations from the vocal cords and obtain a rapid cure.

Rapid Death following Operation, coincident with Hypertrophied Thymus.—M. Guibé reported the case of a boy, aged 17 months, who died suddenly about twenty-four hours after an operation for double inguinal hernia.

Mme. Nageotte discussed the question of isolation of brothers and

sisters of children suffering from infectious diseases and alluded to Dr. Milnes's methods.

M. Leroux gave statistics of mortality from contagious diseases at St. Joseph's Hospital and attributed its low figure to the absence of children under three years of age and to the peculiar social conditions of the patients.

Vincent Dickinson.

Abstracts from Current Literature.

Medicine.

The principles of the reduction of infant mortality (*'New York Med. Journ.,'* 1911, II, *p.* 1067).—**S. Josephine Baker** believes that the material decrease in the infant death-rate in the past thirty years, and particularly during the past year, in New York City, has been due to the great educational campaign that has been carried on for many years, culminating in the direct efforts of the past summer. The principles involved in the reduction of infant mortality she considers to be these: (1) the need of public opinion, the awakening of civic consciousness, stimulation of the people to demand that the civic forces shall be so adjusted and co-ordinated that the babies may be allowed to live instead of forced into illness and doomed to death. (2) The study of the problem of the institution baby: during 1911, up to October 1st, 42 per cent. of all deaths of babies under one year in the borough of Manhattan had occurred in institutions. (3) A supply of safe milk at a price within the reach of the majority of the people. (4) The broadening of courses in pædiatrics in medical colleges. (5) The interest and attention of social students and workers, and of philanthropists, in meeting individual family needs and adjusting economic conditions. (6) Instruction of each mother. (7) A right understanding of the immediate causes of infant mortality. Application of these principles had caused a great fall in the death-rate, especially during the last summer, when they had been most efficiently used. For future achievements the writer suggests a more comprehensive programme. (1) A campaign of educational publicity which will reach both the public and the individual mothers. (2) More strenuous efforts in the direction of reducing the death-rate from congenital causes. The obstetrician should insist that the mother place herself under his care and follow his directions during the entire period of pregnancy. To overcome the abnormal death-rate from congenital causes there must be (*a*) proper education and control of midwives; (*b*) classes for, and supervision of, pregnant women; (*c*) a form of insurance which will provide a stated payment for women for at least one month before and one month after confinement; (*d*) co-operation of philanthropic agencies to provide proper food, hygienic surroundings, and freedom from anxiety for the pregnant woman. (3) The question of institution care *versus* the placing-out system must be practically worked out. (4) It must be realised that infant mortality is a year-round problem, and must be dealt with in winter as in summer.

Frederick Langmead.

The influence of milk station work on the reduction of infant mortality (*'New York Med. Journ.,'* 1911, II, *p.* 1065).—**G. R. Pisek** gives certain statistics on this subject obtained from observations in the city of New York during the summer of 1911. There were seventy-nine stations at the beginning of last summer. An organisation known as the Association of Infant Milk Stations was formed to secure effective co-operation between the different agencies working to reduce the infant death-rate. This association on July 1st had an enrolment of 5932 babies; by the end of July this had increased to 9888, and a month later to 11,702. The milk station was not primarily a place for the distribution of modified milk, but for the education of the mother. The station doctor and the nurse were the important factors. The intimate contact of the nurse with the mothers in their homes made it possible to teach them how to modify bottled milk in their own homes according to instructions. The milk supply was an excellent raw product, and was preserved from deterioration in the homes by simple home-made refrigerators. The mothers were taught the value of breast-milk. They were also taught to recognise the danger-signals of summer diarrhœa and the need for immediate action. The number of deaths of infants under one year from all causes during the first nine months of 1911 was 11,733, compared to 12,920 for the corresponding period of 1910—a decrease of 17·7 per mille. This meant the saving during the year of 1640 babies. During June, July, August and September there were 1244 fewer deaths in 1911 than in 1910. Studying deaths from diarrhœal diseases alone under one year of age in the borough of Manhattan, from January to June there was an increase of 28 per cent. over 1910, but after the milk campaign had begun in June there was a decrease of 50 per cent., in July 69 per cent., in August 23 per cent. and in September 25 per cent.—altogether a decrease in the death-rate of 41 per cent. A section of the city in which the influence of milk stations was established was compared to a similar section uninfluenced by them. In the former there was a decrease of deaths of 29 per cent. compared to 1910; in the latter an increase of 9 per cent. FREDERICK LANGMEAD.

Premiums for nursing mothers and milk depôts for infants (*'Med. Record,'* 1911, II, *p.* 805).—**Charles Hermann,** who has made a study of this subject in France and Germany, is of opinion that neither premiums for mothers nor milk-distributing centres are satisfactory. The money, he thinks, would be better spent by paying visiting nurses. He describes the method adopted at the Lebanon Maternity Hospital. While still in the hospital the mothers are instructed in the care and feeding of infants. Printed cards are given to assist the memory and also a card telling them to attend the Pædiatric Department within ten days after leaving the hospital, or sooner in special cases. If they fail to attend a post-card is sent to them, and if this meets with no response a visit is made to the home. Dr. Hermann emphasises the following points: (1) The importance of giving the mother instruction from the start. (2) Of fourteen deaths, seven occurred during the first month of life, and five of these during the first two weeks; therefore anyone who expects to see a drop in the infant mortality as soon as a milk depôt is established is bound to be disappointed. (3) The milk depôt should be established in connection with a hospital for treating babies who are ill. Breast milk should be provided in special cases. (4) From 75 to 80 per cent. of the mothers are able to give the breast for five or more

months. Few are too poor to buy bottled milk. It was unnecessary to distribute modified milk. (5) For the majority of cases one visit a month to the depôt is sufficient. The emphasis should be placed on breast-feeding and not on the distribution of cow's milk of good quality.

FREDERICK LANGMEAD.

Is the milk of eclamptic mothers toxic? Case reports. (*'Arch. Pediat.,'* 1912, XXIX, *p.* 55).—**C. A. Frost** describes four cases, two confirming the opinion of Goodall that the milk in this condition is increasedly toxic, and two corroborating the observation that children born of nephritic mothers are of lowered vitality, and answers the question in the affirmative (*cf.* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1911, VIII, p. 227.—ED.) F. R. B ATKINSON.

Anaphylaxis to cow's milk; anaphylactic therapeutics (*'La Pediat.,'* 1911, XIX, *p.* 641).—**G. Finizio** reports four cases in the same family. In the first two (brothers) the father was alcoholic; both children were robust. In one case there was tuberculosis in the mother and collateral relations; the child was puny and weak, cuti-reaction negative. In one case the phenomena of anaphylaxis became evident only after cow's milk had been tolerated for two or three months. In one case 20 grm. of milk produced symptoms, in two 40 grm., and in one other 100–120 grm. Symptoms occurred not later than two to three hours after taking the milk, and were ushered in by vomiting and diarrhœa. In three of the cases there were hypertony, tetany and convulsions, in two cases a temperature 38°–39° C., and in one a tendency to hypothermia. The condition of hypersensibility lasted in two cases about six to seven months, one case died in two months, and one case had no further symptoms after two months. Investigations on the blood-serum during and after the attack showed evident precipitin reaction towards cow's milk and diminution of the complementary fever of the serum. In one case whey, obtained by chimosinic coagulation of the milk, was given in amounts of 100 grm. daily, and after four days there was no longer any anaphylaxis to whole milk. This seems to point to an immunising power in whey.

VINCENT DICKINSON.

Anaphylaxis in its relation to pædiatrics (*'Amer. Journ. Dis. Child.,'* 1911, II, *p.* 39).—**G. R. Pisek** and **M. C. Pease** consider it very likely that a child may inherit its mother's sensitiveness to toxins, and points to Goodall's cases, in which the mothers of three children suffered from post-partum eclampsia and the children all died from symptoms exactly similar to an anaphylactic reaction. The authors also suggest than in many cases in which children fail to digest cow's milk, a sufficient amount of unchanged milk protein has been absorbed to cause hypersusceptibility. They also incline to the view that some of the severe types of convulsions may be anaphylactic in origin. F. R. B. ATKINSON.

Recent developments in pasteurisation of milk for a general market (*'Amer. Journ. Dis. Child.,'* 1912, III, *p.* 226).—**E. H. Schorer** holds the opinion, based on observations and the study of various pasteurising devices and the results obtained by them, that it is evident that the results derived in the laboratory cannot be transferred directly to the dairy. A routine of heating to 140° F. for twenty minutes,

whilst efficient in the laboratory, is not a safe one in the dairy. The safest method for pasteurising is in sealed bottles, allowing at least thirty minutes for heating to the temperature of pasteurisation, and then pasteurising at about 145° F. for thirty minutes—all done under official supervision. Laboratory men unacquainted with commercial conditions should refrain from advising on the new departure of pasteurising in the bottle, so that milk-producers and dealers will not needlessly have to expend as much money for these devices and systems as they have for pasteurisation devices in the past as a result of what they regard as expert advice.

FREDERICK LANGMEAD.

Lactic ferment therapy (*'Riv. di clin. pediat.,'* 1912, x, *p.* 218).—**G. R. Burlamacchi** describes his researches and experiments during six months at the infants' dispensary at Lucca. He finds that milk pasteurised or otherwise sterilised daily in small bottles of not more than 200 grm. capacity, to which is added one or more teaspoonfuls of acidogenous rennet, constitutes both a food and medicament for infants suffering from digestive disturbance. The acid medication obtained by the use of fermented milk is well tolerated, and is more effectual than that obtained by powders or tablets of lactic ferment in the dry state or by mineral acids. The coagulation of the casein commences in the bottle, and is more finely divided than that which occurs in the stomach after the administration of lab-ferment. The acidogenous ferments of rennet, moreover, produce in the bottle a partial peptonisation of the albuminoid contents of the milk, thus sparing the debilitated stomach. These ferments also stimulate quickly and effectively the digestives enzymes to greater secretive activity. The milk containing them is therefore useful in dyspepsia both of the stomach and intestines, and in cases of athrepsia and atrophy. VINCENT DICKINSON.

Researches on the so-called galactogenic action of subcutaneous injections of milk (*'Lyon méd.,'* 1912, CXVIII, *p.* 161).—**Chatin** and **Rendu** tried Nolf's method in eight cases, giving thirteen injections and having thirteen failures. In eight instances the curve of milk secretion remained stationary or slightly lowered. In the five others there was a slight ascent noticed after the injections of milk, but always in association with other concomitant factors, such as change or increase in the number of nurslings suckled, a larger demand on the part of the infant during convalescence, a resumption of suckling after a short interruption, change of food and surroundings of the mother in the hospital. VINCENT DICKINSON.

Infant feeding with undiluted cow's milk (*'New York State Journ. of Med.,'* 1912, XII, *p.* 188).—**W. B. Hanbidge** describes sixteen cases of babies treated by this method after all other means had failed to relieve the diarrhœa and severe emaciation. The author finds that 1¾ to 2¼ oz. of undiluted cow's milk per pound weight in twenty-four hours is sufficient to nourish a child. F. R. B. ATKINSON.

Grave infantile atrophy (*'La Clin. inf.,'* 1912, x, *p.* 135).—**P. Petit** relates the case of a girl, aged 2 months, admitted in a condition of extreme athrepsia with green stools and diarrhœa. She had been fed by bottle with scalded and homogenised milk and was then put to a wet nurse, but without success. Meningeal hæmorrhage ensued, which proved fatal. There were sclerosis and fatty degeneration of the liver, which seem to have been the

cause of the incurable infantile atrophy. When infants do not thrive on such diet an hereditary taint may be suspected, such as tuberculosis or syphilis, or a congenital malformation, such as stricture of the pylorus, etc.
VINCENT DICKINSON.

Cyanosis in infants due to malnutrition (*'La Semana Médica,'* 1911, XVIII, *p.* 289).—**Enrique Foster** describes three cases of infants 15, 36 and 26 days old, who failed to draw sufficient milk from the breasts and were suffering from malnutrition. All three were brought for attacks of cyanosis. The whole body was cold, rectal temperature, 36·4 to 36·5 C., the respiration superficial with prolonged pauses. One child died, the two others recovered. Treatment must be applied to the general condition. The infant must be kept warm, and artificial feeding adopted, using, if possible, the mother's milk.
M. D. EDER.

The ætiology of infantile diarrhœa (*'Austral. Med. Journ.,'* 1912, I, *p.* 289).—**R. L. Forsyth** finds that over 80 per cent. of these cases show bacteria in the stools. They are of four kinds: (1) Resembling Shiga's bacillus found in dysentery; (2) a bacillus like Morgan's, which seldom causes agglutinins, and giving rise to a subacute trouble; (3) Gaertner-like organisms, causing a long chronic illness; (4) a peculiar class of bacilli, not previously described in this disease. It agglutinates but rarely.
F. R. B. ATKINSON.

Cause and treatment of summer diarrhœa in children (*'Austral. Med. Journ.,'* 1912, I, *pp.* 263 and 278).—**A. J. Wood.**—To prevent the disease the milk supply must be fresh and properly cooled if used raw. The bottles and nipples must be sterile and the slightest signs of vomiting or diarrhœa not neglected. If possible the children should be kept in the country in the hot weather. Children suffering from the disease should be kept as far as possible in the open air. Tepid baths may be used frequently, and if the temperature is high the bath should be graduated and cold cloths applied to the head. Scrupulous cleanliness is essential. The stomach should be washed out and a teaspoonful of castor oil put into the stomach; the washing out should be with boiled water and a teaspoonful of baking soda to the pint. The bowel should also be thoroughly cleansed. After this water for twenty-four hours should be given by the mouth, hot or cold. At the end of this time alternate bottles of rennet whey and boiled water should be given and return to milk should be made very gradually. The author finds no drugs of any use except opium, which should be given in sufficient quantities to relieve pain and check excessive peristalsis, but not to stop the motions and cause stupor. He generally orders for a child six months of age ½ minim of liq. opii sed. in a teaspoonful of water three times a day, with the proviso that there must be two motions between each dose, otherwise the dose is omitted. Brandy and whiskey may be given as stimulants, but should not be mixed with the food: ʒj of brandy in ʒv of water sweetened with sugar, ʒj every two hours. Subcutaneous injections of saline are frequently of great service, half a pint into the loose cellular tissue of the back, chest, or abdomen, but not more than 5 oz. in any one place in a child of six months.
F. R. B. ATKINSON.

Diarrhœa in breast-fed infants (*'La clin. inf.,'* 1912, X, *p.* 65).—**G. Variot** prefers the old term "diarrhœa," for observations of a large

number of cases have led him to think that the bare conception of a gastro-enteritis is not an exact one in the majority of cases, but rather is harmful from a therapeutic point of view, for if we are content to try a local treatment for the enteritis, the real cause of the trouble is apt to be misunderstood, and by inopportune treatment and too prolonged dieting the mischief is intensified instead of cured. In the immense majority of cases it is not the infant who is at fault, but the fact that he is placed in relation with factors external to himself which disturb his gastro-intestinal functions. The author classifies the cases under the following heads: (1) *Diarrhœa caused by factors external to the infant*: (*a*) Summer diarrhœa. The author has given up the use of opiates, bismuth and astringents, and contents himself with giving rice-water, intestinal lavage with boiled water, injections of sea-water or artificial serum according to the gravity of the case. (*b*) Diarrhœa caused by over-feeding. (*c*) Diarrhœa from under-feeding. (*d*) Diarrhœa from modification of the fat and casein. In some cases there may be as much as 80 per cent. of fat in the mother's milk instead of 35–40 per cent. In such cases mixed feeding should be adopted with asses' milk. Excess of casein is rare, and as a rule the digestive organs of the infant adapt themselves to such a condition. (*e*) Diarrhœa due to toxicity of the milk (? caused by leucomaines). (*f*) Diarrhœa from toxicity of the milk in the course of various infections in the mother. (*g*) Diarrhœa caused by alimentary intoxication of the nurse, *i. e.* sausages, spiced viands, cabbage and spinach, alcohol. (2) *Diarrhœa of dentition*, either reflex from the dental follicles or associated with stomatitis. This is probably the only kind of diarrhœa due to causes imputable to the infant himself.

VINCENT DICKINSON.

The clinical aspect of certain cases of infantile diarrhœa considered in relation to recent bacteriological work (*'Liverpool Med.-Chir. Journ.,'* 1911, xxxi, *p.* 376).—**C. Rundle** and **E. H. R. Harries** have been impressed by the "typhoidal" course of many of the cases of children admitted for infantile diarrhœa into the City Hospital, Fazakerley. From several of these, the bacillus "F" (Orr, Stenhouse Williams, Leith Murray, Rundle and Williams) has either been isolated or agglutination reactions indicated its presence. The resemblance to typhoid, and more especially paratyphoid, was close. The onset was gradual, and associated with either diarrhœa or constipation. Vomiting was never a marked feature and was often absent. The main features of the temperature charts recalled those of typhoid or paratyphoid. Relapses occurred in approximately 10 per cent. Complications of a suppurative nature were relatively frequent, furuncles occurring in 12 per cent., and otitis in 7 per cent. Abscesses were not rare.

FREDERICK LANGMEAD.

Intestinal intoxications (*'Liverpool Med.-Chir. Journ.,'* 1911, xxxi, *p.* 362).—**Owen T. Williams** emphasises the importance of recent work on the physiology of digestion in relation to the study of intestinal disorders, and the significance of the liver as a safeguard against the poisonous products of metabolism, whether of fats, carbohydrates, or proteids. He gives a brief *resumé* of Herter's important work upon the intestinal flora at different ages, and in patients taking different diets, and of that author's division of intestinal putrefactive processes into the three types, indolic, saccharo-butyric, and combined indolic and saccharo-butyric. The fæces of a nursling contain abundant Gram-positive organisms, and thus differ

from those of bottle-fed babies, which contain chiefly Gram-negative bacilli of the *B. coli communis* group. After infancy a more varied dietary permits a greater variety of micro-organisms to obtain entrance to the intestinal tract. There are many simple tests which can be of service to the clinician. The reaction of the stool is of great significance. A diminished flow of bile into the bowel is often indicated by the perchloride of mercury test. A small portion of fæces is placed in a test-tube with a saturated solution of $HgCl_2$. Normally a pink colour results in a few hours, but is delayed for more than twelve hours in cases of diminished bile flow. Schlössing's method of determining the amount of ammonia in the urine is valuable. So is the test for indol-acetic acid to show abnormal protein cleavage. The addition to the urine of strong HCl, aided if necessary by a few drops of ·1 per cent. solution of potassium nitrite, gives a rose-red colour. Microscopical examination of the fæces is of importance for the recognition of mucus, meat fibre, starches, or fats, and of leucocytosis. Staining by Gram's method gives a fair idea of the nature of the germs in the intestine. The author then gives a few examples of cases where the application of these methods of investigation, coupled with the knowledge afforded by recent work on digestion and the results of Herter's researches, suggested rational and successful treatment. FREDERICK LANGMEAD.

The intestinal infantilism of Herter (*'Am. Journ. Dis. Child.,'* 1911, II, *p.* 332).—**R. G. Freeman** brings forward four fresh cases of this type of infantilism. In three of them the bacteriology of the fæces was examined by Herter and showed the conditions described in his original cases. The characteristics of this group are given by Herter as follows: (1) The child ceases to grow or to gain weight. (2) There are abdominal distension, moderate anæmia and marked fatigue. Attacks of diarrhœa, often with fatty stools, are frequent. The appetite and thirst may be excessive, the secretion of urine increased. The extremities are cold. Rickets may be present. (3) The ordinary bacterial flora of the intestines of young children are absent. The prevailing organism is the *B. bifidus* of Tissier. With this there may be the *B. acidophilus* and the *B. infantilis*, the latter possibly a variation of *B. bifidus*. The *B. coli* and *B. lactis aërogenes* are infrequently found during the active stages of the disorder. The examination of the fæces shows an excess of fat out of proportion to the amount taken in the food, a large amount of fatty acids and soaps. (4) The urine is increased in amount and shows marked indicanuria, with an excess of ethereal sulphates, phenol and aromatic oxyacids. Freeman discusses the relationship of his cases to Bramwell's type of pancreatic infantilism. He obtained the best results by the use of pancreatic extract in two cases. REGINALD MILLER.

Infantile diarrhœa and its treatment (*'Austral. Med. Gaz.,'* 1912, XXXI, *p.* 30).—**H. A. Ellis** looks on the following prescription as almost a panacea in this disease: Mag. sulph. ʒj–ʒiij, mucilag. ʒss, salol gr. v–x, glycerine ʒiij, aq. chlor. ad. ʒiij; ʒj every one, two, or three hours night and day, sleeping or waking, vomiting or not. In mild cases a dose every three hours is sufficient. As regards food, the author recommends barley-water and white of egg beaten up, with an equal quantity of water or soda-water. In serious cases he adds liquid peptonoids. F. R. B. ATKINSON.

Treatment of summer diarrhœa (*'Austral. Med. Journ.,'* 1912, I, *p.* 288). —**H. D. Stephens** divides the clinical course into three periods: (1) Water-

diet period. Cool boiled water is given frequently, and continued for twelve hours or even days if the motions are green and offensive and the child's condition warrants it. Castor oil should be given and the bowel and stomach washed out. (2) Interim period: (*a*) Cereal gruels, as barley- and rice-water; (*b*) proteid types of food, as egg-albumin, plasmon broth with or without gelatine, raw beef-juice, peptonoids, etc.; (*c*) patent foods, as Carnrick's, Neaves', Allenbury's No. 1, and, best of all, Benger's food. (3) Milk modification period. The return to milk must be made gradually, beginning with 5j of milk to one of the interim feedings night and morning.

F. R. B. Atkinson.

A peculiar form of anæmia in infants (*'Brazil Med.,'* 1911, xxv, *p.* 481).—**Paranhos** describes cases of anæmia that he has observed from time to time in breast-fed children who do not increase regularly in weight and remain very apathetic. Beyond occasional slight gastro-intestinal disturbances there have been no marked symptoms. The circulatory and respiratory tracts are normal. The liver and spleen are generally enlarged, the evening temperature a little raised. Blood examination shows hæmatic insufficiency. The blood contains myelocytes, megaloblasts, and marked numbers of normoblasts: there are poikilocytosis and occasionally polychromatophilia; hæmatoblasts are numerous. The leucocytes may be 20,000 or 40,000. The presence of parasites in malaria was of course suggested and excluded. Rickets, tuberculosis and syphilis are not present. For the present the writer is content to regard them as due to some gastro-intestinal toxin. At all events under prolonged treatment the cases all finally recover.

M. D. Eder.

The anæmia associated with rickets and gastro-intestinal disturbances, including splenic anæmia in children (*'Practitioner,'* 1912, lxxxviii, *p.* 675).—**H. T. Ashby** finds that the anæmia of rickets may start from a slight diminution of the hæmoglobin with abnormal number of red blood-cells, and end as splenic anæmia. He considers the latter is not a true primary anæmia, but a severe secondary anæmia due to a toxin. The same one that causes rickets causes anæmia, and if severe enough, splenic anæmia. He believes the toxin is formed in the intestinal tract, either by the action of micro-organisms or by undigested food.

F. R. B. Atkinson.

Acute lymphatic leukæmia (*'Journ. Amer. Med. Assoc.,'* 1912, lviii, *p.* 935).—**W. H. Bodenstab** describes three fatal cases in a boy, aged 10 years, a girl, aged 16 years, and a boy, aged 11 years respectively. In the first case there were a sudden increase of large mononuclear non-granular cells, a decrease in the number of red cells, a tendency to hæmorrhages and numerous nucleated red cells. In the second case the red blood-cells were very pale and irregular, the white blood-cells showed numerous forms, polymorphonuclear cells without granules, and unripe and very young lymphocytes of the large variety. In the third case there existed only one form of lymphocytes, uniform in size, shape, and staining qualities. The ratio between white and red cells was 1 to 3. The spleen and liver were very large.

F. R. B. Atkinson.

Acute lymphatic leukæmia in an infant (*'Arch. of Pediat.,'* 1911, xxviii, *p.* 43).—**B. S. Veeder.**—A female infant, aged 17 months, was

admitted to hospital with a wide-spread purpuric eruption, and died three days after admission. There was no necropsy, but the diagnosis was based on the presence of enlarged cervical axillary and inguinal glands, an enormous splenic tumour, and the following blood examination: hæmoglobin, 55 per cent.; red cells, 3,370,000; white cells, 1,330,000. Differential count (1000 cells): lymphocytes 985 (small 780, large 205), polymorphonuclears 12 (2 with eosinophile granules), myelocytes 3 (2 with basophile granules). J. D. Rolleston.

Mikulicz's disease, with a report of a case of lymphatic leukæmia in a child with marked enlargement of the salivary glands (*'Amer. Journ. Dis. Child.,'* 1911, II, *p.* 293).—**W. Tileston** describes the case of a child, aged 2 years, suffering from lymphatic leukæmia and enlargement of the parotid and submaxillary glands. He finds that leukæmia associated with the syndrome of Mikulicz is extremely rare, and considers that the latter disease should be reserved for those cases of chronic bilateral enlargement of the salivary and lachrymal glands in which pseudo-leukæmia and leukæmia could be excluded. F. R. B. Atkinson.

Malaria in an infant five months old, simulating Von Jaksch anæmia (*'Med. Record,'* 1912, I, *p.* 519).—**A. C. Henderson** describes this case, in which, in addition to the blood-count, examination of blood revealed numerous malarial organisms. Bimuriate of quinine given hypodermically four grains daily in divided doses rapidly cured the condition. The temperature rose to 104° F. the day after the quinine was given, but afterwards remained normal. F. R. B. Atkinson.

The pathology of splenic anæmia in children (*'La Pediatria,'* 1911, XIX, *p.* 801).—**G. di Cristina** contributes a lengthy paper on this subject, based on twenty-eight cases observed by him, which come under four groups: (1) Cases where syphilis in the mother was ascertained by the history or by biological methods; (2) cases where the mother gave a specific reaction to tubercle and syphilis; (3) cases in which maternal tuberculosis was certain; (4) cases which were doubtful from insufficient data. Details of the blood examination are given in each, and in two cases a full report of the autopsy. In the majority maternal syphilis or tubercle was found, lending support to Epstein's theory of para-tuberculosis and para-syphilis. The author feels bound to admit the direct influence of the maternal disease on that of the child, in the sense that, although the disease of the mother is not developed in all its active manifestations, there exists in the child a true intoxication caused by poisons absorbed during fœtal life through the placenta, and possibly also with the milk during the first months of suckling. He believes that most, if not all, cases of infantile splenic anæmia come under the large group of para-tuberculosis and para-syphilis, which hitherto have received scanty notice at the hands of pathologists and pædiatrists.
Vincent Dickinson.

Anæmia splenica infantum (*'Jahrb. f. Kinderheilk.,'* 1911, LXXIII, *p.* 690).—**S. Ostronoki** describes this disease fully and comes to the following conclusions: (1) Anæmia pseudo-leukæmia infantum should be removed from pædiatric terminology. (2) Anæmia splenica infantum is a special clinical entity. (3) In most cases it is secondary, and is chiefly due to catarrh of the digestive tract in connection with hypo-alimentation. (4) The primary

form exists and its ætiology is doubtful. (5) Rickets, tuberculosis and hereditary syphilis are only unfavourable circumstances in the development of the disease. (6) The disease affects boys and girls equally between six months and two years of age. (7) The characteristic signs are marked pallor, olive tinge of the face, splenic tumour usually without swelling of the liver and lymph-glands. (8) Histologically most cases show oligocythæmia, oligochromæmia, poikilocytosis, and anisocytosis (change in size), lymphocytosis, myelocytes and erythroblasts. (9) The changes of the red blood-corpuscles are typical. (10) The spleen shows marked increase of the connective tissue, atrophy of the Malpighian bodies; eosinophiles and erythroblasts are found in the pulp. (11) The changes in the lymph glands are similar, only less marked. (12) The liver-cells are round, the capillaries of the liver dilated and filled with white blood-corpuscles and nuclear and non-nuclear red corpuscles. (13) Slight degenerative changes may be found in the kidneys. (14) It is distinguished from leukæmia by the absence of a marked leucocytosis and a relatively slight percentage of myelocytes in the blood. (15) The prognosis is serious. (16) The treatment consists of good food, iron, arsenic and the X rays. F. R. B. Atkinson.

Splenic anæmia and splenectomy (*'Austral. Med. Journ.,'* 1911, I, *p.* 37).—**Stirling and Grantley-Shelton** describe a case of splenectomy successfully performed for the above disease in a girl, aged 16 years. They consider that the operation of splenectomy for splenic anæmia shows "results more gratifying than is the case in many operations more commonly practised, if it be done before the terminal stages of liver cirrhosis with ascites and gastric hæmorrhage." F. R. B. Atkinson.

Leishman's anæmia in children (*'Gazz. med. ital.,'* 1911, LXII, *p.* 324).—**R. Jemma** and **G. di Cristina.**—This disease is now recognised to be not so rare as was formerly supposed. The writers admit the identity of the parasite with that met with by Leishman and Donovan in cases of kala-azar in India, and pointed out by Pianese as existing in cases of infantile splenic anæmia. The disease is most frequent in the second and third years, at the end of winter and in spring. Until recently it was only met with at Naples, on the Calabrian coast, Lipari, Sicily, Tunis, and Malta, and among the fishing and agricultural population who lived in squalid and unhealthy surroundings. The disease is feebly contagious, and has a tendency to remain circumscribed; it may disappear from a given locality, and then re-appear without apparent cause; it may also break out in situations where it did not previously exist, or where no cases have occurred recently. These facts tally with the presence of an intermediary host, and Leishman-Donovan bodies were found on rare occasions in *Pediculus capitis*, and more abundantly in *Cimex macrocephalus*, in the intestines of which were noticed flagellate forms. Since the parasite exists in the blood of the patient in very small numbers it requires a long time to infect the *Cimex*, and the intervention of the dog is probably required as a depository host to explain isolated cases occurring at a distance. The parasite belongs to the group Mastigophora, sub-class Flagellati, genus Herpetomonas. *Symptoms:* Intestinal disturbance of a mild type with diarrhœa is noticed at the beginning in most cases, sometimes with vomiting, then febrile symptoms, anæmia and enlarged spleen. Sometimes the fever is accompanied by rigors and sweating, which, taken in conjunction with the splenic enlargement, leads to a diagnosis of malaria, but the injection of large doses of quinine has no

effect on it. Confusion is also apt to arise between this disease and Malta fever, typhoid, and paratyphoid. Once established the disease goes on to a fatal termination; the fever, however, may disappear temporarily. The spleen, which is but slightly enlarged in the early stages, may attain colossal proportions; it is hard and not tender. A positive diagnosis can only be made by examination of the blood obtained by splenic puncture. Although the prognosis is uniformly fatal, the authors think there may be mild cases, which are diagnosed as infective fevers of unknown origin, and which are capable of recovery. No method of treatment has been hitherto found to be of any avail, but the authors are conducting a series of experiments with a view to immunisation. (See also '*Ann. di Clin. Med.*,' 1910, I, No. 3.)

VINCENT DICKINSON.

Purpura hæmorrhagica ('*New York Med. Journ.*,' 1912, I, *p.* 269).—**J. M. Wallfield** describes a case of a boy, aged 7½ years, in whose case the points of interest were: (1) The gradual development from purpura simplex to purpura rheumatica, to Henoch's purpura, and to purpura hæmorrhagica. (2) Pain was always localised on the right side of the abdomen. (3) Rheumatism existed in both parents. (4) Two severe relapses occurred on slight changes in diet during improvement. (5) The uncertainty of the prognosis, though the case seemed to be a mild one at the start. (6) Swelling in the popliteal space.

F. R. B. ATKINSON.

Purpura fulminans following pneumonia ('*New York Med. Journ.*,' 1911, II, *p.* 1031).—**D. Elliott** and **H. S. Maitland** record a case in a male infant, aged 1 year, who died forty-eight hours after the first appearance of the purpura, and on the seventh day of lobar pneumonia. The lesions were situated on both ears, right cheek, both hands and forearms, the left knee, and right foot. Blood examination: Hæmoglobin, 50 per cent.; red cells, 3,200,000; leucocytes, 14,000. Red cells showed slight anisocytosis, poikilocytosis, and polychromatophilia. There were a few nucleated red cells. Differential count: Polymorphonuclears, 86 per cent.; lymphocytes, 10 per cent.; large mononuclears, 3 per cent.; eosinophiles, 1 per cent. Urine contained some albumin and granular casts. Necropsy: Lobar pneumonia of right lung, degenerative and exudative nephritis, fatty infiltration and degeneration of liver, and acute parenchymatous degeneration of heart muscle. Smears from lung showed numerous pneumococci.

J. D. ROLLESTON.

Œdema in infants ('*Arch. of Pediat.*,' 1912, XXIX, *p.* 204).—**P. A. Potter** has seen seventeen cases showing this symptom in the past four years in which no renal or cardiac disease was found, and believes it to be due to insufficient proteids in the food, as he has noticed an increase of the proteids in the diet has resulted in a recovery of a large proportion of the cases.

F. R. B. ATKINSON.

Anasarca without albuminuria or cardiopathy in a girl, aged 8 years, suffering from hereditary syphilis ('*Arch. de méd. des enf.*,' 1912, X, *p.* 266).—**Deléarde** and **Repellin** describe this very rare condition, and can only find two cases in the literature at all resembling their own. Idiopathic anasarca is frequently fatal in children a few months of age (Fairbanks had five deaths in six cases), but as a general rule the prognosis is more favourable than in cases of anasarca due to a renal or cardiac affec-

tion. The authors consider it is due to a retention of chlorides, and recommend a diet without chlorides, the administration of theobromine and purgatives. F. R. B. Atkinson.

Ophthalmology.

Prevention of blenorrhœa neonatorum (*'Deutsche Aerzte Zeit.,'* 1912, *p.* 3).—**Greven** regards Credé's method as the essential prophylactic; he recommends a 1 per cent. silver nitrate solution (instead of the 2 per cent.). In any case of blenorrhœal eye disease the upper and lower eyelids should be painted once a day by the doctor himself with a 1–2 per cent. solution of silver nitrate. When the secretion is at an end protargol (5–10 per cent.) or collargol (1–5 per cent.) twice a day should be substituted. M. D. Eder.

Membranous conjunctivitis in a new-born child (*'Journ. de méd. de Paris,'* 1912, xxxii, *p.* 357).—**Ginet and Paillaise** record a case in which, though Credé's method was used immediately after birth, suppuration of the left eye occurred the next day, and of the right eye on the day after. A slight degree of suppuration continued, and six days after birth membranous patches appeared on the palpebral conjunctiva on both sides. The lids were swollen and infiltrated. Microscopical examination of the membrane on the eighth day of life did not reveal any characteristic organism, but only a few cocci and no bacilli. Before death, which took place on the tenth day of life, the membrane had invaded the bulbar conjunctiva. The clinical features were those of diphtheritic or gonococcal conjunctivitis. The date of onset is in favour of the latter. J. D. Rolleston.

Bilateral anophthalmos (*'Med. Record,'* 1912, i, *p.* 165).—**H. B. Sheffield** records a case in a baby aged 8 months. No family or personal history was obtainable. The lids were normal in development; on being separated they showed a thick pale membrane, which yielded to pressure sufficiently to prove the absence of even rudimentary soft visual structures behind it. Only about 100 cases of this condition have been recorded. J. D. Rolleston.

Buphthalmia (*'Cleveland Med. Journ.,'* 1912, xi, *p.* 188).—**S. H. Monson** describes the case of a boy, aged 9 years, in whom enlargement and exophthalmos of the left eye were very marked. A few weeks since he had received a blow on the eye, and as a result so much pain and photophobia occurred that he had to keep both eyes tightly closed. The right eye was normal, but the cornea of the left was large and of a blue colour, with marked circumcorneal injection. Enucleation was performed, since which time the right eye was kept open without effort, but no ophthalmoscopic examination had been made up to the time of publication. The author discusses the statistics and cause of the condition. F. R. B. Atkinson.

Bilateral congenital anterior staphyloma of the eyeball, with histological examination (*'Ophthalmoscope,'* 1912, x, *p.* 184).—**Sydney Stephenson.**—The case was that of a small male infant, weighing 4¼ lb., who came under observation when eight days old. The condition is thus described. Each palpebral fissure is occupied by a globular fleshy mass, in

which no trace of cornea can be recognised. This mass, which is translucent when light is thrown upon it by a lens, protrudes from between the eyelids. It shows no signs of pigmentation. The eyelids cannot be closed so as to cover the fleshy prominences. The conjunctival sacs are well formed. Each palpebral fissure is extended by a slit-like prolongation beyond what should be the outer canthus. There are no evidences of recent inflammation as regards the palpebral conjunctiva, which is smooth, thin, and barely reddened. In particular, there is nothing in the condition of the conjunctiva to suggest an antecedent ophthalmia. No discharge is present from the conjunctiva. Other congenital deformities are present, as follows: (1) The head is spherical, measuring $11\frac{1}{4}$ in. in circumference (microcephalus). (2) The ears are normal as regards shape, but from the posterior surface and the helix there grows forward a fringe of long, soft, dark hair. (3) The right testicle cannot be felt in the scrotum, although the left one is in place (monorchism). (4) The little finger is small and incurved; it is, in fact, of Mongolian type. (5) The lower extremities show several deformities: (*a*) No movement at the hip-joint can be elicited; (*b*) the patellæ appear to be absent; (*c*) the knees cannot be flexed, but extension is possible to the extent of a right angle on both sides (genu recurvatum). The infant suffered from attacks of dyspnœa, in one of which he died when sixty-seven days old. An autopsy was not allowed, but the eyeballs were removed and submitted to careful examination, details of which are given. The results of the microscopic examination substantiated the opinion (based on clinical evidence) that the condition was one of mal-development. J. Allan.

Amaurotic family idiocy (*'Med. Record,'* 1912, I, *p.* 165).—**H. B. Sheffield** records a case in an 11-months-old baby, the youngest of three children of Austrian-Hebrew parents. The infant was normal until six months of age, when it grew pale, flabby and less active. The characteristic symptoms and eye changes developed. Anti-syphilitic treatment was of no avail, and death took place from hypostatic pneumonia following influenza. J. D. Rolleston.

Four generations of blue sclerotics (*'The Ophthalmoscope,'* 1912, X, *p.* 188).—**C. A. Adair-Deighton.**—Of twelve individuals nine had blue sclerotics, and five of these multiple fractures (*cf.* British Journal of Children's Diseases, 1911, VIII, *p.* 202). J. D. Rolleston.

Ocular manifestations associated with some forms of chronic cyanosis, especially in congenital heart disease (*'New York Med. Journ.,'* 1912, I, *p.* 69).—**T. B. Holloway** describes nine cases, one personal, of cyanosis retinæ out of twenty-seven cases reported in congenital heart disease. The veins of the lids are often enlarged, the conjunctiva discoloured, and in pronounced cases the sclera as well. The discs in the majority of cases are hyperæmic, and the disc margins are blurred in various degrees. In three of the twenty-seven cases the disc was normal. In some cases the retinal arteries are normal, in others contracted, and in others dilated and tortuous. The arterial blood appears darker in colour and similar to the venous. The veins are always dilated, and in one case saccular dilatations were present. In some cases the venous branches showed a reflex stripe. The colour of the blood has been described as violet, brownish, violet-brown, and almost black. Hæmorrhages have been noticed in the retina, and also into the vitreous. Exophthalmos

has been seen. In cases of polycythæmia or erythræmia, retinal hæmorrhages, venous dilatation, dusky red discs with hazy margins, have been observed. In cases of intoxications from coal-tar products and other drugs, various conditions of the retina, iris and sclera have been noticed very similar to those met with in cyanosis retinæ and polycythæmia. Mention is also made of the rare condition known as enterogenous cyanosis, in which the chief symptom has been attributed sometimes to methæmoglobin and sometimes to sulphæmoglobin. There is an extensive bibliography.

F. R. B. Atkinson.

Ocular conditions found in Mongolian idiots (*'Ophth. Review,'* 1911, xxx, *p.* 380).—**A. W. Ormond,** at the November meeting of the Ophthalmological Society, read a paper on this subject based on forty-two cases. Over 50 per cent. had defects in their lenses, and almost all had some ocular defect, such as blepharitis, ectropion, squint, nystagmus or lens opacity. Blepharitis and conjunctivitis might be primarily due to dirty habits and might be kept up by uncorrected errors of refraction. A more certain cause of the inflammatory condition of the lids was a dry, glazed condition of the skin of the lower lids, which, by its contraction, caused a slight degree of ectropion. The cataracts were of the incomplete form, and most of them of the "dot" variety, in the position common for lamellar cataract. These dots, when slight, were often translucent, and so could not be seen by transmitted light. The opacities did not reach to the periphery of the lens in any direction, and consisted of numerous small discrete dots. The posterior pole of the cataract was often marked by a star-shaped opacity. The visual acuity could not be accurately recorded, as the children were not sufficiently controllable to be trusted with glasses. Of the forty-two cases, thirty-two were males and ten females. Twenty-three had the interpalpebral fissure directed upwards and outwards, five had nystagmus, nine had squint, eighteen had either blepharitis or ectropion, or both, eleven had epicanthus, and twenty-five had some lens opacity. J. Allan.

Proptosis: A clinical study (*'Glasg. Med. Journ.,'* 1911, ii, *p.* 401).—**A. Maitland Ramsay** emphasises the fact that proptosis is merely a symptom, and that each case must be investigated for an underlying cause. Clinically cases may be grouped as follows: (1) Proptosis accompanied by signs of inflammation; (2) proptosis unaccompanied by signs of inflammation. In developing points of differential diagnosis he quotes the following illustrative cases in children: (1) Orbital cellulitis following post-influenzal suppuration of the anterior ethmoidal cells; (2) abscess of the orbit complicated by panophthalmitis; (3) periostitis of the orbit, followed by abscess of the brain; (4) fungating bleeding round-celled sarcoma, which originated in the left orbit; (5) angioma of the orbit. J. Allan.

Chronic membranous conjunctivitis treated with vaccines (*'Ophthalmoscope,'* 1912, x, *p.* 312).—**E. A. Dorrell** describes a case of this disease in a male child, three months old. Examination of the membrane revealed pneumococci and the influenza bacillus; a vaccine was made from mixed organisms and a dose of two millions given, which was repeated in four days. The eye gradually got worse, the vaccine was discontinued, and the eye washed out with perchloride of mercury lotion, 1 in 6000, the membrane removed and nitrate of silver applied. Six weeks afterwards the condition remained the same. A vaccine of fresh pneumococci was made, and

a dose of 5 millions given. This made matters worse. A fortnight afterwards a vaccine was made from a culture of streptococcus found in the membrane and four doses from 400,000 to 800,000 given. Improvement gradually took place, but a cure had not occurred six months afterwards when a relapse set in and an autogenous vaccine dose, 400,000, was given, and gradually increased to 2,000,000. The condition improved, but a cure had not been effected twenty-six months after commencing treatment.

F. R. B. Atkinson.

Parinaud's conjunctivitis (tuberculous conjunctivitis) (*'Ophth. Review,'* 1912, xxxi, *p.* 31).—**Adam and Watzold,** at the November meeting of the Berlin Ophthalmological Society, reported this case, which occurred in a boy, aged 9 years, who had exhibited many signs of tubercle of lung and other parts. For five months the pre-auricular gland had been swollen and the left eye had been inflamed. In the conjunctiva of both lids were warty, red, broad-based masses, specially numerous upon the lower lid, and particularly towards the *cul-de-sac.* The eye itself showed no change, but the pre-auricular and submaxillary glands were enlarged and painless. A portion of tissue excised from the conjunctiva exhibited typical tuberculous structure with œdema of the superficial tissues, and with giant-cell formation in the deeper. A minute portion introduced into the anterior chamber of rabbit and guinea-pig brought on typical tuberculous iritis and cyclitis. In the guinea-pigs experimented upon the mesenteric glands became swollen with tubercle. In the course of discussion, Kriusius suggested that this form of conjunctivitis might be due to re-infection in a body already infected with tubercle. J. Allan.

Parinaud's conjunctivitis (*'Semana Medica,'* 1912, xix, *p.* 652).—**Argañaraz.**—This infectious disease of the conjunctiva is most commonly seen in childhood or in youth. The following signs must all be present to justify the name: (1) Conjunctivitis with the characteristic granulations; (2) palpebral tumefaction; (3) enlargements of the parotid and submaxillary glands; (4) fever, anorexia, etc. The disease runs a mild course, lasting seven to ten months, and leaves no traces behind. The disease is not contagious, and it has not been experimentally produced in the conjunctivæ of animals. The cornea and the lachrymal apparatus remain unaffected. It is not a tuberculous disease as was once thought. Possibly the *Bacillus xerosis,* either alone or in conjunction with other micro-organisms, is the causal agent. Injections of Behring's serum have proved of some value; the rest of the treatment should be symptomatic, fomentations, etc.; silver nitrate should never be used. Four cases are reported, of which three were in children. M. D. Eder.

Keratitis as a cause of myopia (*'Glasg. Med. Journ.,'* 1912, i, *p.* 241).—**J. A. Wilson** maintains that there is some relationship between corneal opacities and myopia. Corneal opacities are the remains of bygone inflammation, with or without ulceration, and if there is any relationship it must in the first case be with the keratitis. One hundred cases of corneal opacities were investigated, with the following results: 88 per cent. had very bad or bad vision; in 69 per cent. the error of refraction was found to be myopia; 62 per cent. of the opacities were due to some disease affecting the eyes when the patients were about, or under, five years of age, 34 per cent. to disease when between five and ten years, and 4 per cent. to disease when

over ten years, that is to say, in practically all cases during childhood. The disease which caused the opacities was—with striking frequency—said to have followed measles, and in the author's cases the disease was most likely to be phlyctenular ophthalmia. In his concluding remarks on treatment he lays special emphasis on the great importance of careful and efficient treatment. These cases should be kept under observation after the acute stage is over, school work relaxed, and an effort made to keep the intra-ocular pressure low. By avoiding recurrence of the attacks much might be done to lessen or prevent secondary ill-effects. J. Allan.

Retinal disease with detachment in a child (*'Ophth. Review,'* 1911, xxx, *p.* 349).—**R. A. Greeves.**—A well-grown healthy boy, aged 6 years, came under observation with a red and painful left eye, which had been in this condition for a week. Prior to this no difference in the eyes had ever been recognised, except that the left eye was liable to turn outwards at times. This had been first noticed when the child was a year old. Measles six months before. Parents healthy; one other child, also healthy. An uncle had died of phthisis. The patient had had a severe blow on the left side of the head and face two months before the onset of the present trouble. On examination there was no perception of light in the left eye; the pupil was semi-dilated and inactive; the tension was high. There was no fundus reflex, but the retina and its vessels could be seen plainly by focal illumination. It was seen to be pushed forwards behind the lens, and it exhibited an absence of mobility and transparency which gave the impression that there was something solid behind. The right eye was normal and emmetropic. The left eye was enucleated. The eyeball was bisected horizontally after having been hardened. The anterior chamber was found to be shallow, and the iris was adherent to the cornea at its root. There was a mass of highly organised fibrous tissue surrounding the papilla. This mass apparently represented the outer layers of the overlying retina, with which it was continuous. Associated with it were recent hæmorhages as well as spaces containing cholesterin crystals. The rest of the retina was detached and thickened. There was no vascular disease. Secondary glaucoma was present and appeared to be recent. The author thinks that an injury at birth may have been the primary cause (the birth was an instrumental one), and that the recent injury may have excited recent changes. J. Allan.

Strabismus in infants and young children (*'Med. Record,'* 1911, ii, *p.* 1170).—**J. M. Heller** emphasises the importance of dealing with cases of squint at the earliest possible moment. He discusses three of the numerous theories with regard to its ætiology, namely, the short-muscle theory, the refraction theory, and the fusion theory. The last is the most feasible and scientific. As to treatment, errors of refraction ought to be corrected by suitable lenses, and as soon as the patient is old enough to understand what is wanted he should be made to exercise his fusion with the amblyoscope of Worth. The author believes that this plan of treatment conscientiously pursued will at least preserve the sight of the squinting eye, even if it does not overcome the strabismus and secure binocular vision. If necessary, an operation may be done later to straighten the eyes.

J. Allan.

Concomitant squint following injury to the head and eye (*'Glasg. Med. Journ.,'* 1912, i, *p.* 251).—**A. J. Ballantyne** records two cases. In

the first, a boy, aged 8 years, there had been a compound depressed fracture of the right frontal bone. There were also swelling and ecchymosis of the eyelid on the right side and chemosis and subconjunctival hæmorrhage in the right eye, and he was unable to open the eye spontaneously until about a fortnight after the accident. When this occurred it was noticed that he had a convergent squint of the right eye and he complained of double vision. Prior to the accident no squint or diplopia had been evident. There was a pronounced error of refraction (compound hypermetropic astigmatism), for which correcting lenses were prescribed. After wearing these for a few weeks the eyes were parallel and the diplopia had disappeared. In Case 2, a boy, aged 11 years, had been struck on the left eye with a golf-ball. The eye was blackened and the lids were swollen, and a bandage was worn for some days. When the bandage was removed he was found to be squinting with the left eye, and about the same time he complained of double vision, neither of which symptoms had been previously noted. As in the first case, there was an error of refraction, which was duly corrected. In this case it was found necessary at a later date to operate to obtain perfect parallelism of the eyes. The author discusses the causation, and comes to the conclusion that the explanation is that the accident in each case, by causing temporary occlusion of one eye, gave occasion for the conversion of a latent into a manifest squint. Prognosis is good in such cases.

J. Allan.

The management of squint in children (*'Amer. Journ. Dis. Child.,'* 1912, III, *p.* 107).—**C. W. Le Fever** points out that the responsibility for allowing children to become adults with eyes crossed and loss of function in one eye must be shared by three persons, namely, the parents, the pædiatrist or general practitioner, and the oculist. Two factors are responsible for the squint, namely, an error of refraction, which is generally hypermetropia and deficient development of the fusion sense. They may act together or singly. Treatment is considered under five heads: (1) Correction of any error of refraction; (2) the use of atropine to suppress accommodation and render third nerve stimulus of no avail in helping the visual acuity; (3) cure of the amblyopia; (4) re-establishment of the fusion sense; (5) operative measures, which should only be used as a last resort. J. Allan.

A plea for the early treatment of squint (*'Austral. Med. Gaz.,'* 1912, I, *p.* 493).—**M. Thornett's** conclusions are as follows: A child should be treated for squint the very first week he is seen to squint, and no child is too young for this. The squinting eye must be made to see. Operation should not be done except as a last resource. Tenotomy of the internal rectus should never be performed. F. R. B. Atkinson.

The importance of lumbar puncture in the plumbic ocular neuritis of children (*'Austral. Med. Gaz.,'* 1912, XXXI, *p.* 25).—**J. L. Gibson** describes three cases out of nine of plumbic ocular neuritis under his care treated by lumbar puncture, and believes that the right treatment for this disease is removal from home, lumbar puncture, salines and dilute sulphuric for a few days, and then iodide of potash; also pilocarpin hypodermically. F. R. B. Atkinson.

Ophthalmic school clinics (*'Birm. Med. Rev.,'* 1912, XIX, *p.* 25).—**R. B. Hird** describes his experience of these clinics in Bromsgrove. The

number of children attending these clinics up to date has reached about 1700, and over 200 of these required treatment for defects of vision, etc. In the Aston school clinic the author attended 270 cases; of these 253 required glasses; of these 32 per cent. were long-sighted, about 5 per cent. short-sighted, and nearly 64 per cent. astigmatic. About 70 per cent. of the cases required glasses for purposes of education and 30 per cent. to see comfortably, but could have been educated without them. Thirty-six cases suffered from squint, twelve from corneal scars, three were incurably blind. The author considers school clinics are the best means for dealing with defective eyesight in school-children.

F. R. B. Atkinson.

Reviews.

The Sexual Life of the Child. By Dr. Albert Moll. Translated from the German by Dr. Eden Paul. London: George Allen & Co. Price 15*s*. net.

Dr. Moll, who is well known from his other writings on the sexual question, has in the present volume given a lucid and impartial view of the sexual life of the child. The substance of the work is shown by the following titles of the chapters: (1) Introductory and Historical. (2) Sexual Organs; The Sexual Impulse. (3) Sexual Differentiation in Childhood. (4) Symptomatology. (5) Pathology. (6) Ætiology and Diagnosis. (7) Importance of the Sexual Life of the Child. (8) The Child as the Object of Sexual Practices. (9) Sexual Education.

The unprejudiced reader cannot fail to be struck by the air of moderation which pervades the book. Thus, while showing that sexual incidents occur far more frequently in childhood than is usually supposed, the author repeatedly warns us against falling into the error of attributing a sexual significance to acts which do not possess any. The same spirit is shown in dealing with the important subject of masturbation. Though he does not consider it altogether indifferent as regards the health of the child, Dr. Moll has very rarely seen unfavourable consequences arising from the practice in early childhood, in spite of the dangers commonly supposed to be connected therewith. He has even found that many patients who have never indulged in the habit were the subjects of morbid predisposition, and therefore the sexual impulse was of minimum intensity or developed late. In the account of the development of the sexual impulse special stress is laid on the existence of an undifferentiated stage, which occurs much more frequently than is generally supposed in persons whose subsequent sexual development is perfectly normal. During this stage, in addition to heterosexual and homosexual inclinations, perverse sentiments, masochistic, sadistic or fetishistic in character, and even sexual inclinations towards animals may appear. The chapter on sexual education is full of interesting observations. Though it is desirable to divert the child from the sexual impulse, Dr. Moll rightly regards complete exclusion of sexual stimuli as impossible; instances are given to show the importance of proper care being taken to promote in the child the development of the sentiments of shame and disgust, and also of moral ideas. In dealing with the influence of religious instruction, though he does not dispute the fact that religious education may achieve admirable results, the author contests the assertion that a loftier sexual morality is

induced by this means, and gives many examples in support of his contention. Dr. Moll is in favour of co-education, and alludes to the good results obtained therefrom in America. He shows that separation of the sexes in childhood favours the development of homosexuality, while co-education gives an early stimulus to the capacity for self-protection in girls, without causing a premature awakening of the sexual life. The proper time for sexual enlightenment and the persons suitable to impart it are discussed. The author is of opinion that the biology and physiology of reproduction may be taught at a comparatively early age. Cautions regarding masturbation need not be given before thirteen or fourteen, and warnings concerning venereal infection, and in the case of girls, impregnation and prostitution should be given on leaving school. Apart from purely biological processes, on which instruction may be given at school, the mother is generally to be regarded as the best person to impart sexual enlightenment, though she is by no means always suited for the task.

We have drawn attention to only a few of the important matters discussed in this remarkable book. An excellent index will guide the reader to the author's views on sexual precocity, sexual life in town and country, the effect of castration, the value of children's evidence, and corporal punishment in schools.

The translation has been admirably carried out by Dr. Eden Paul, whose work deserves the highest praise. It should be noted that the sale of the book is limited to members of the medical, scholastic, legal and clerical professions. J. D. R.

Diseases of Infants and Children. By H. D. Chapin, M.D., and G. R. Pisek, M.D. Second edition. Royal octavo, pp. 636, with 181 illustrations and 11 coloured plates. London: Baillière, Tindall & Cox, 1912. Price 18s. net.

The first edition of this work by two American authors appeared in 1909, and this, the second, has been brought up to date without materially increasing its size. The book is a very useful treatise on the diseases of infants and children, and also includes some of the commoner surgical affections. The descriptions are clear and free from all verbosity, and the treatment advocated for the various diseases is reliable, and not unduly complicated. There is little to cavil at throughout the book, which, taken altogether, is a thoroughly competent work. Some of the diseases, however, seem out of place; thus achondroplasia is included under diseases of the ductless glands, and primary myopathy under diseases of the spinal cord. With one statement we cannot agree, viz. that the lymphatic form of leukæmia is less common than the myelogenous variety. This is certainly not the case in early life.

The book contains numerous illustrations, most of which are good. Some are inconvincing, and others perhaps unnecessary. Among the last are photographs of a basket-crib, of an infant being weighed (which for some reason appears twice—on pp. 28 and 186), and of bed-sores in myelitis. The two plates of topographical anatomy, although useful, are hardly required, while the cuts of the nutritive periods from the ovum to adult life on p. 109 savour of an advertisement.

The coloured plates on the whole are satisfactory, but the difficulties in reproducing the rashes of scarlet fever, measles and German measles have not been entirely overcome.

The printing and get-up of the book is in every way excellent, and the binding is good. We recommend it to students and practitioners as a useful addition to the library. T. R. W.

Reden und Abhandlungen aus dem Gebiete der Kinderheilkunde. By O. Heubner. Leipzig: J. A. Barth, 1912. Pp. 208. With 3 tables. Price M. 4, paper; M. 5, bound.

Under the title 'Reden und Abhandlungen aus dem Gebiete der Kinderheilkunde' have been collected a number of addresses given from time to time by Professor Heubner of Berlin. Delivered upon a variety of occasions, at a celebration of the birthday of the German Emperor, for example, or at the opening of a national congress for the protection of infant life, addresses such as these cannot be expected to deal with the subjects treated in great detail. Yet a very short examination of the book will serve to convince the reader that it contains no mere collection of perfunctory or conventional inaugural addresses, but that it has brought together the well-considered utterances of one who has long held a foremost place in pædiatrics, who has lived through great changes in our beliefs and in our practice, and who, as he surveys our present position, is little likely to be led away from forming a true estimate by a too great enthusiasm for the latest developments of the science. It is because Professor Heubner's long life and rich experience have given stability to his judgment, have conferred upon him, as it were, a true immunity against those temporary disorders of reason to which all of us in our enthusiasms are at some time liable, that his examination of our present beliefs has an especial value and interest.

In the first of these addresses Professor Heubner deals with inherited and inborn abnormalities of constitution, with the so-called exudative diathesis, with hæmophilia, with cretinism, and with children of neuropathic inheritance, and indicates the treatment and dietetic rules which should be adopted in each case. The second deals in general terms with the care and nurture of the infant, especially with its clothing and food. In the third Professor Heubner discusses the technique of breast-feeding, and examines the causes which have led to the apparent decline in women of the present day of the power to suckle their children. The fourth and fifth addresses treat of the feeding of older children and of the feeding of sick infants respectively. In the latter the newer teaching as to the ill-effects of excess of sugars and of fats in the diet finds expression. The sixth is upon scrofula, and treats especially of the differentiation of the scrofulous from the exudative diathesis. In the seventh hydrotherapy is discussed, and in the eighth and last the position of the study and teaching of pædiatrics in the various universities and schools in Europe is considered. We heartily recommend this little book to all who are interested in the study and care of children. H. C. C.

The Gateways of Knowledge. By J. A. Dell, M.Sc.Vict. The Cambridge Nature Study Series. Pp. xii + 172. Cambridge University Press, 1912. Price 2s. 6d.

This is a very unpretentious and excellent brochure on the study of the senses, containing a short description of the various senses of touch, smell, sight, etc., with numerous examples for testing the same. The book is well and simply written, and well suited for the purpose for which it was intended, viz. to instruct the young. F. R. B. A.

Correspondence.

A NEW AND IMPROVED SODA WATER.

To the Editor of The British Journal of Children's Diseases.

Dear Sir,—Two years ago the question occurred to me of the practicability of making a solution of sodium citrate in such a manner as to permit of its always being available for the use of children and others who require a milk diet. The advantages of this salt in assisting the digestion of milk have within the last few years proved so great as to make a ready prepared solution a real desideratum. The property which it possesses of producing a fine flocculent curd with milk casein has made it practically indispensable in the treatment of those who have to rely upon a milk diet. To attempt to make an aqueous solution that would keep without having recourse to some antiseptic seemed impossible, because any such agent is certain to affect the food prejudicially, either by affecting its taste or by diminishing its digestibility. I therefore decided to make a more dilute solution than I originally wished for and charged it with carbonic acid gas, with the happy result that I find that this carbonated solution keeps admirably. Ultimately the idea seized me that here was a new soda water, which is not only of the highest importance from the point of view of medical dietetics, but would be of great service in maintaining the alkalinity of the blood, and in general playing its part as a remote alkalising agent. The formula finally adopted consists of five grains of pure sodium citrate, together with five grains of sodium bicarbonate, in half a pint of carbonated water.

Messrs. Jewsbury & Brown, of Manchester, have for some time past put it on the market in syphons, and many practitioners who have tried it speak of it in the highest terms.

I am,

Yours faithfully,

William Kirkby, M.Sc., F.C.S.

25, Thornhill Road,
Heaton Moor, Stockport;
June the 26th, 1912.